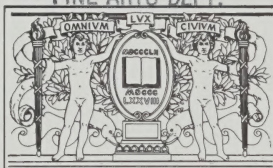


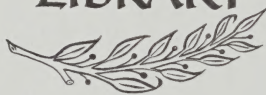




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# SCIENTIFIC AMERICAN



Building Monthly.

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"WHITE HALL," PALM BEACH, FLA.—RESIDENCE OF HENRY M. FLAGLER, 1892.

No. 219

JANUARY, 1904

2153

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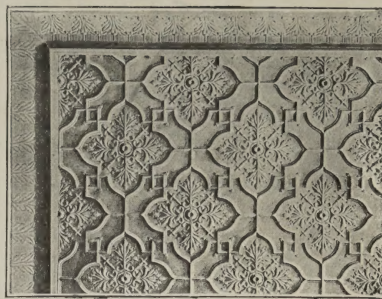
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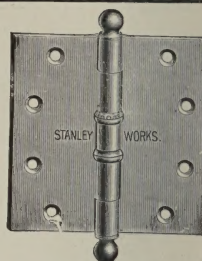
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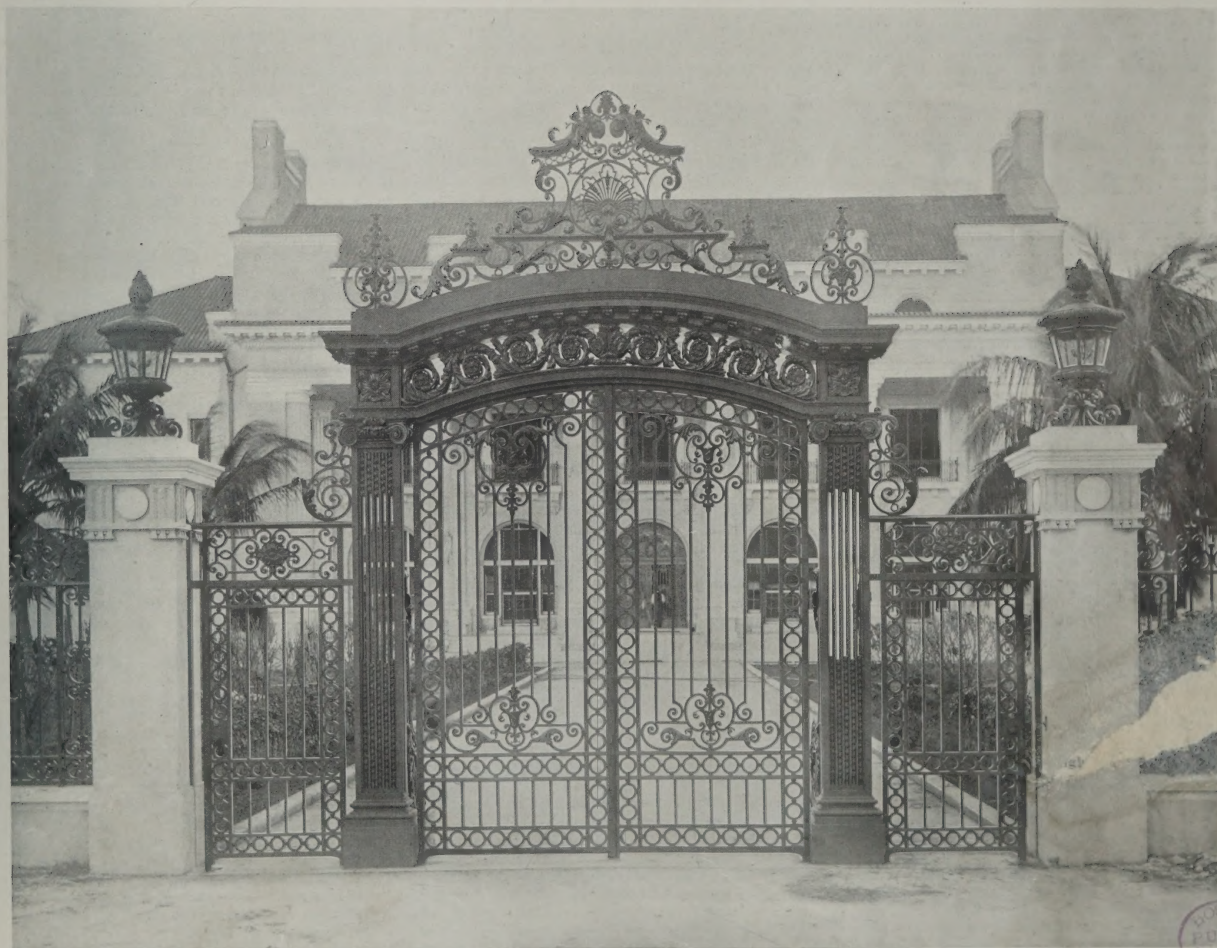
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MAIN ENTRANCE

"WHITE HALL," THE HOUSE OF H. M. FLAGLER, PALM BEACH, FLA.—See page 3.  
MESSRS. CARRÈRE & HASTINGS, ARCHITECTS.

OF THE  
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# SCIENTIFIC AMERICAN BUILDING MONTHLY

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NEW YORK, JANUARY, 1904.

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\*\* The engravings presented in this issue are made from photographs taken specially for the SCIENTIFIC AMERICAN BUILDING MONTHLY.

## MONTHLY COMMENT.

THERE is no severer test to friendship than to live with other people, unless it be where two or more families combine in joint-tenancy of a building and make their joint common habitation a purely friendly combination. Certain privacy, although not only of the extent that is desired, may be obtained in flat houses, and more than this is seldom desired. Two gentlemen residing in a Western city have, however, struck a new note for adjoining houses, by building a pair of dwellings exactly alike and close enough together to be covered by a high colonnade. Each house is absolutely independent, and one is no nearer the other than the suburban houses, but the architectural bond of the original feature of much interest. The colonnade has been selected for architectural treatment, and each house has a large semicircular porch reaching through the colonnade, supported by Ionic columns. The colonnade is similar in design, and an extremely stately effect has been secured by this simple device.

The stuffy house is perhaps as common a kind of dwelling as exists. The number of people afraid of fresh air is astonishing, and yet fresh air is one of the essentials of good living. Many people seem to think that the purpose of a window is to be kept closed; often enough it is so covered with curtains and shutters that the light even is hardly admitted. Yet, as a matter of fact, windows exist for two purposes—to admit light and to admit air. The light, of course, need not be glaring nor too abundant; common sense will regulate its quantity; but light can be obtained from no other source, and hence the value of the window as a light admitter is supreme. Its utility in providing fresh air is quite as certain and effective. The dwelling house can hardly be too much ventilated.

Every room should be thoroughly aired every day and kept sweet and clean by this simple method. It is not necessary to sit in cold, draughty rooms to secure this end; that is something quite different. But rooms must be aired constantly and sufficiently to keep the house in good condition. A stuffy house filled with concentrated odor of cooking and human beings is an abomination to be avoided above all things.

LOCALITY often appears to exercise an important influence on the success of a community without any apparent reason. The supremacy of New York among American cities is readily made clear by reason of its harbor, and the commercial advantages which have resulted from this its chief glory. Chicago's growth has been brought about by its situation on Lake Michigan and the tremendous railroad connections, but there does not appear to be any real reason why the latter should not have developed at some other point, having natural advantages greatly superior to those of the Western metropolis. The same thing is true of lesser communities. Cities will thrive in some place and not in others; towns in one situation will grow greater and greater, and no one knows the reason why. Individual energy on the part of the inhabitants does not always account for the mystery; natural advantages do not always explain it; undoubtedly there is a combination of circumstances that our economic philosophers have not yet made clear which accounts for the prosperity of communities, and which may be simple enough were the reasons really known.

The new buildings and grounds now in process of construction for the New York Juvenile Asylum constitute one of the most interesting architectural undertakings proposed for early realization in the United States. The new project consists, in short, in the creation of a children's village for the exclusive use of the asylum, a village designed with due regard to the needs of the institution and in a very pleasing type of architecture. It is likely to prove, for some time to come, the model community in the neighborhood of New York. The asylum has long since outgrown its old quarters on Washington Heights, and the new community at Chaucey, on the New York and Putnam Railroad, about thirteen miles from One Hundred and Fifty-fifth Street, will offer the utmost contrast to the old ones. Separate buildings will be provided for separate needs; broad lawns, ample playgrounds, and a well conceived plan will add to the attractions of the place. The plans indicate a distinct advance in designing institutions of this sort.

The secret of success in building is care, taste, and knowledge. A building is a more or less permanent structure; one should be careful in what one does. Taste is essential in obtaining a good esthetic result; and one should always know what the result will be before beginning operations. Haphazard building is to be avoided above all things, and the more thought put into the structure, the greater the satisfaction to be derived from it.

## SOME HOME BUILDERS AND WHAT THEY DID.

A PERIODICAL that boldly prints across its face the legend, "The Magazine with a million," meaning thereby a million edition, is clearly entitled to very great respect. An issue of a million copies of any publication can only be achieved in the case of extraordinary merit; at least, it is evident that very many people read it, and, no doubt, many persons look upon it as a shining light in the general darkness that envelops humanity.

A periodical of this description has, for some time past, been entertaining and instructing its readers with heart-to-heart autobiographies, dealing wholly with adventures met with in saving money for building homes. It is a theme of most abounding popular interest, since the merits of home owning have been preached most persistently by numerous prophets, and so constantly have its advantages been talked of that the mere rent-payer has come to be looked upon as a foolish, extravagant person, who does not know how to take care of himself.

The chapters referred to constitute the most considerable body of confessions on the subject of saving for the house that have ever been brought together. The whole country has been ransacked for examples, and very varied are the tales and experiences presented. No sum appears to have been too small on which to make a beginning; no financial difficulties seem ever to have deterred the determined house owner from accomplishing his set aim and purpose. No family misfortune, no trial of sickness or of death even, seems to have stood in the way of perfecting ownership, paying off debts, and getting the house. And, no doubt, as an evidence of good faith, most of the stories are embellished with portraits of the houses, so, it may be presumed, that those who doubt may have visual evidence before them.

The first impression created by these articles is the

extent of the home owning fever; it is confined to no one section of the country, but experiences are presented from widely separated points. The next point is the intense earnestness with which the goal has been sought. Nothing, apparently, has stood in the way of obtaining the coveted ownership. A single illustration will suffice, a particularly harrowing case of a woman whose husband earned \$7 per week, and who started with a cash capital of \$30 after six years of married life. They had a child of five. Various economies were made at the start; a hand sewing-machine was rented for \$3 per year, a garden planted, worked by the husband at night, the woman, meanwhile, sewing nightly until one A. M., getting up at five, and taking enough sleep on Sundays to leave her in good shape for the coming week (!). The husband's salary in due time was increased to \$8 per week, the woman sewed more, and at the end of seven years \$935 had been paid for the house and it was free of debt. This account ends with the naive statement that the woman had been the petted child of rich parents, and did not know the value of money until after she was married. The history she has composed certainly suggests that her appreciation of its worth was afterward very great.

Was it worth it? That, of course, is a question that can only be answered by those who have gone through the fire. The hard hearted reader may instantly reply that it was not; that the pinching and scraping, the rigid economies, the joyless existence, the hard luck, the danger of loss were too great for the result obtained. And the objection would be a valid one were it not for the fact that the persons who underwent these experiences took up their burdens gladly and freely; they wanted to pinch and scrape and save; they were happy in skipping themselves because they had a reward in view that they fancied would amply compensate them for the trials they assumed.

This touches on the secret of the successes in these ventures: the burdens were willingly assumed and gladly borne; those who assumed them would not have been happy in any other mode of life. And the object sought was something real, with positive value possibly greater than the face value of the money saved. The incentive was considerable and quite sufficient to spur on the investor to the greatest possible efforts.

It is not, however, likely that the question of the value or the importance of owning a home will be settled by the publication of such experiences. When home ownership involves risks, economies, and even privations, it becomes a matter for individual settlement alone. One may, indeed, read and ponder over what others have done; one may be astonished at results, one may marvel at experiences, one may wish one could do likewise and still have neither the courage nor the hardihood to undertake like risks. It is a safe proposition that \$7 a week in wages is quite too little for any man to marry on, or to think of marrying on; but it is a proper rejoinder that people who would marry with such incomes are the very ones who might, with sufficient economy, come into home ownership through the hardest sort of hard work. Not every one could do it, and not every one rash enough to assume family burdens on such an income could even make the poorest of household ends meet; but the man and woman who, with no larger income, would put their shoulders to the wheel might, very likely, win out in the end.

Success is a most attractive result, and those who succeed in any sort of an undertaking are entitled to respect. No one can build and acquire ownership in a home on small wages without assuming very considerable risks. If the thing is carried through the venture has been successful, and apparently, the enterprise has succeeded. But home building on small incomes almost invariably necessitates assuming debts. Long periods of time are needed to pay off the charges; if the payments are long drawn out, the house, when free, is an old one and in itself may not be worth what it cost. The value of the property as property may have increased through external betterments or other conditions. Rent has, of course, been avoided, but there have been repair bills and expenses which had not been calculated at the beginning.

All this, however, counts as nothing when freedom from debt is obtained and the house is one's own. Every betterment put upon it is to one's own good. Every tree planted, every shrub raised, every window reglazed, every post repainted, every new piece of piping—everything, in fact, is one's own, and in the sense of possession and ownership is a salve for many buffetings and hardships—if one can stand the strain.

That, in the end, is the final test. One can not lightly assume the risks of house ownership, and the articles to which we have referred testify that only by the utmost exertion can people of small means—of the smallest means—finally hope to obtain this much to be desired end. Matrimony and house ownership are at least alike in this: that they are expensive undertakings; they have many compensative joys; and they are all right if they end right.



## TALKS ON ARCHITECTURE

BY BARR FERREE.

**"WHITE HALL," THE HOUSE OF H. M. FLAGLER, PALM BEACH, FLA.**

I CAN imagine few things more delightful than a trip to Florida in the agreeable companionship of Mr. Thomas Hastings; the only more agreeable thing I can think of at this moment is to go somewhere else with him. Mr. Hastings is not only one of the most charming persons alive, but his architectural skill and his architectural knowledge—two qualities quite different and not always found combined in one man—are of a very unusual order. I need hardly say that I take it for his work, which, in conjunction with his associate, Mr. John M. Carrère, has had very wide geographical distribution, is well known to all art lovers and appreciators of the beautiful. It is quite sufficient to remark of Mr. Hastings that he is one of the few living architects in America who can be called truly artistic. Many architects, no doubt, wish to be considered artists; Mr. Hastings is an artist, whatever his personal views may be on the question.

A few years ago Palm Beach was unknown to most people. It is so no longer. The energies which opened up the resort places of Florida have made the name of Palm Beach a tolerably familiar one, and the extraordinary beauties of the place are destined to add to its fame. The Florida resorts are, at least, alike in this, that they are all beautiful. I need say no more than that Mr. Flagler has caused the erection of his great house in one of the most beautiful spots on the Florida coast. It is a spot to charm and delight, and the potency of its charm is well attested in the present instance by the building of this great home.

The Flagler mansion is a house built with an apparent disregard of cost. Like many great modern houses it is comparatively simple in its external treatment. It is eminently stately and serene in its general treatment, the great colonnade of the main front being the chief external adornment. But this is no ordinary colonnade; the columns are monumental in scale, and the five great arched openings behind them, and the large windows above, are direct expressions of internal splendor of dimensions which the front, and the whole of the exterior, so admirably express. For the house is large, of a scale of vastness so great as to place it almost by itself in the catalogue of great American country houses. It clearly stands in a class quite distinct from great houses in the North.

Architecturally considered, it is two stories in height, the attic story being largely placed in the roofs, which are long and low and sloping, and whose varying heights have been most cleverly utilized in giving variety to the silhouette. Like many of Mr. Hastings' designs, this dwelling is classic both in feeling and in detail; but the solemnity of the Roman Doric colonnade has been lightened as far as possible, and the house bears unmistakably the character of a great American country house, which, moreover, is most admirably adapted to its environment in the beautiful Florida landscape in which it has been placed.

I have alluded to the great size of the house; it is not necessary to say more on this point than to remark that the front is a hundred and seventy-five feet long, and the depth a hundred and fifty-five feet. Such dimensions would be intolerable in a Northern house; but they are none too great here, since the center of the dwelling is occupied by a great court,

about ninety feet by fifty feet—a court at once spacious enough to amply light all the rooms and passages that open upon it, useful enough to form a most agreeable place of recreation and retreat, and beautiful enough to form a most entrancing center to this magnificent home.

Adjectives, indeed, are apt to pile up mountain-tudously in describing this splendid house. I have no intention of flattering Mr. Hastings by describing it as the finest thing of its kind; it is not necessary to go so far as that; and, as a matter of fact, not all the credit is his. The house was planned and built by Messrs. Carrère & Hastings. Their own part in the work as architects ceased with the entrance hall, the decorative furnishings of which, together with the whole of the rest of the interior, having been designed and executed by the decorative firm of Pottier & Strymuss Co.

Probably no one enters the Flagler house without expecting to see architectural wonders within it. The

The handrails are beautiful examples of modern bronze work; before each ramp is a fine piece of old tapestry; a central window looks into the court. The walls are of white and green marble, and at each end the length is reduced somewhat by a screen of double columns standing one close behind the other, forming inner vestibules to the rooms that open from either end. The ceiling is richly carved and treated in gray with ornamentation in solid gold; in the center is a large circular painting by Benevenotti. The chairs, tables, and chests with which the hall is furnished were expressly made for this room, and are fine examples of costly workmanship. The bay trees standing by the window should not be forgotten, nor the standards with electric lights. The splendid marble floor is partly covered with superb rugs. The general treatment is Louis XVI.

From the hall one passes on the right to the drawing-room, and on the left to the library. These rooms complete the apartments opening on the front of the house, but their greater dimensions are on the sides. The library, like many libraries in the houses of the great, is not so much a storehouse for books as an agreeable room to read in if one is so inclined. Nothing is wanting to heighten the effect of delightful surroundings in this apartment. The style is Renaissance. The walls have a high wainscot of Circassian walnut, above which they are covered with red Spanish damask of two shades. The walnut mantelpiece between the windows is paneled with brass ornaments, and is richly gilt, the over mantel being filled with a fine life-sized portrait of Mr. Flagler. Comfortable and richly carved easy chairs, handsome desks and tables, ample bookcases, interesting paintings on the walls, add to the good cheer of the room.

Then comes the art gallery and music room, an apartment of large size, admirably designed for the choice collection of paintings gathered by the cultured owner of the house. At one end is a large pipe organ, the room serving the double purpose of music room and art gallery. It is treated in old ivory and antique gold. In the center of the ceiling is a copy of the celebrated painting of "Aurora." It is lighted with jeweled crystal chandeliers.

The next room is the billiard-room, a quaint apartment in the Swiss style. The beamed ceiling is distinctly Teutonic in decorative feeling. It contains both billiard and pool tables. It has a simplicity and directness of effect in charming contrast with the more richly decorated apartments through which we have passed.

Retracing our steps and returning to the hall, we turn to the right and enter the grand salon, which occupies the space on this side of the house corresponding to the library. Like the hall, it is Louis XVI. in style, and is a sumptuous apartment in French gray, the walls paneled in gold and gray brocade silk. It contains a beautiful mantel of white statuary marble; the ceiling has decorated medallions; the portieres are richly embroidered, and the elaborate pieces of furniture are veritable works of art.

Immediately adjoining it is the dining-room, which, as is to be expected in a house of this style and character, is most hospitable in size. The style is Francis I., and the color scheme is a rich green, and the walls have a paneled wainscot of satinwood below, and above are covered with a rich brocade. The elaborate mantelpiece supports a mirror enclosed within a rich frame. The beautiful ceiling is coffered in large squares with ornaments in high

(Concluded on page 16.)

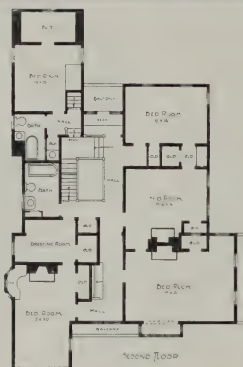


THE BRONZE DOOR—"WHITE HALL," THE HOUSE OF H. M. FLAGLER, PALM BEACH, FLA.

handsome bronze door at the main entrance certainly suggests that it guards art treasures; yet as they swing back to admit the visitor one pauses instinctively. One ordinarily enters a house expecting to find space circumscribed. One enters the Flagler house with a sense that here is space; the cramping must have been without. The hall is of astonishing size, filling the whole of the central front of the house, and, with the staircase, extending back to the inner court. No aid to splendor has been neglected here. There is size, and richness of parts, and beauty of decoration, and richness of color, and stateliness of furniture; it is a truly palatial vestibule to a most palatial home.

Directly before one, as one enters, is the double staircase of white statuary marble to the upper story. It occupies fully a half of the whole length of the hall, standing in a recess of its own, the beginning of the stairs being marked off with groups of four columns of polished American white and green marble, with a great marble vase before each group.





A RESIDENCE AT MOUNT PROSPECT AVENUE, NEWARK, N. J.—See page 16.

MR. PHILIP HENRY WARD, ARCHITECT.



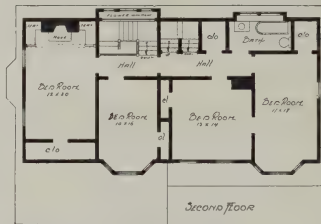


THE LIBRARY.



DINING-ROOM.

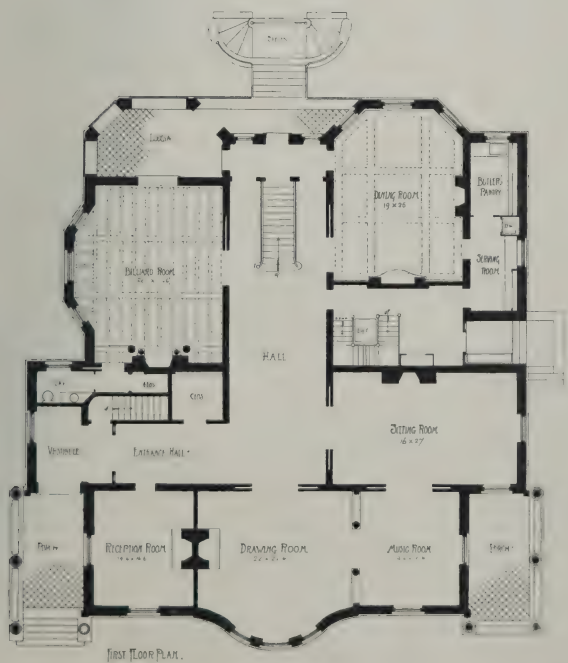
A RESIDENCE AT MOUNT PROSPECT AVENUE, NEWARK, N. J.—See page 16.  
MR. PHILIP HENRY WARD, ARCHITECT.



TWO RESIDENCES AT NEW BEDFORD, MASS.—See page 18.

MR. NATHANIEL C. SMITH, ARCHITECT.





RESIDENCE OF HENRY F. ENGLISH, ESQ., NEW HAVEN, CONN.—See page 19.

MR. BRUCE PRICE, ARCHITECT.





FRONT VIEW.—WALK.



THE HALL.



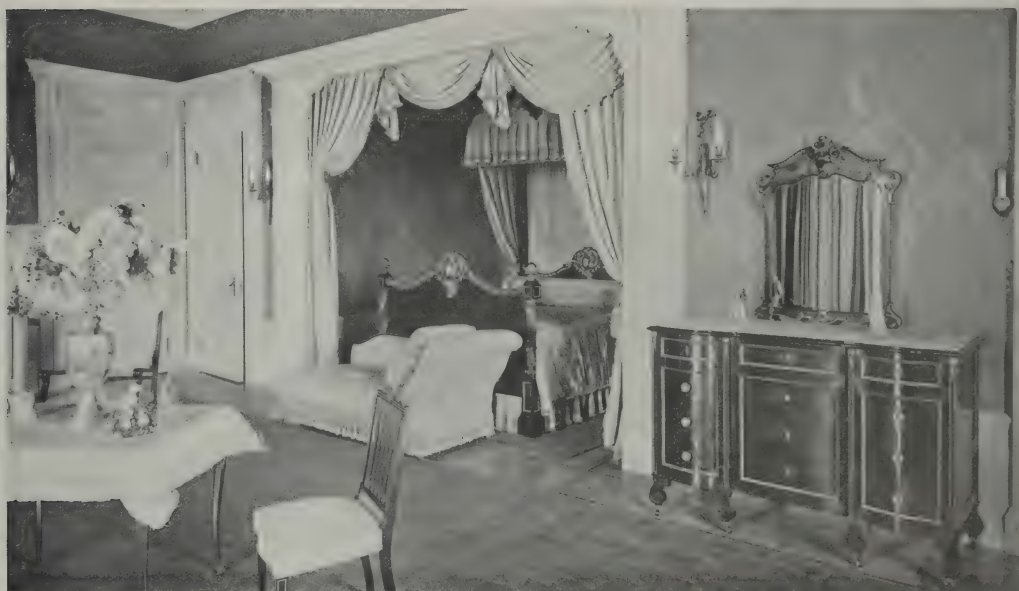
GRAND STAIRWAY.

"WHITE HALL," THE HOUSE OF H. M. FLAGLER, PALM BEACH, FLA.—See page 3.  
MESSRS. CARRÈRE & HASTINGS, ARCHITECTS.





LIBRARY.



ROSE DU BARRY CHAMBER.—COLONIAL.



DINING-ROOM.

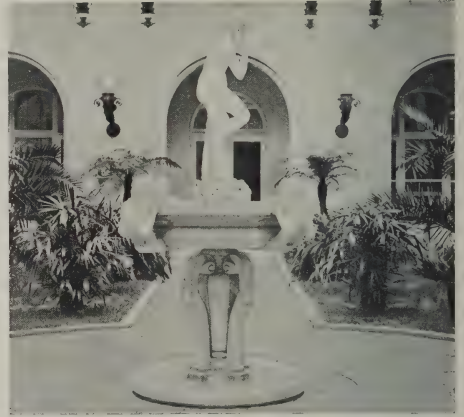




BALLROOM.



INNER COURT.



THE FOUNTAIN.

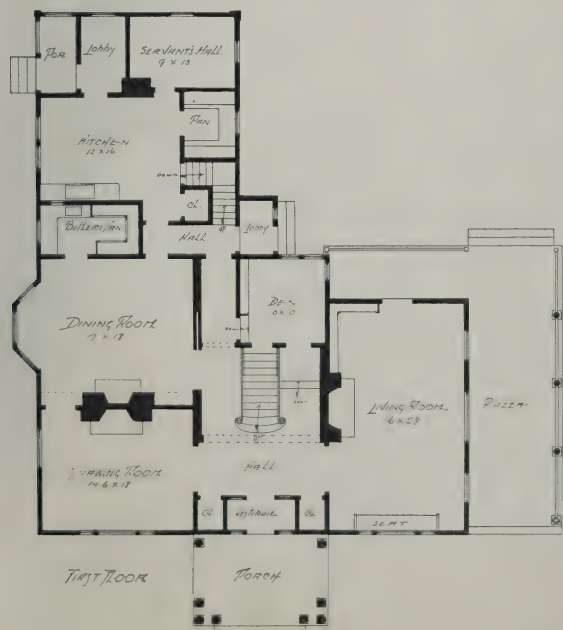


SOUTH SIDE.

"WHITE HALL," THE HOUSE OF H. M. FLAGLER, PALM BEACH, FLA.—See page 3.

MESSRS. CARRÈRE & HASTINGS, ARCHITECTS.





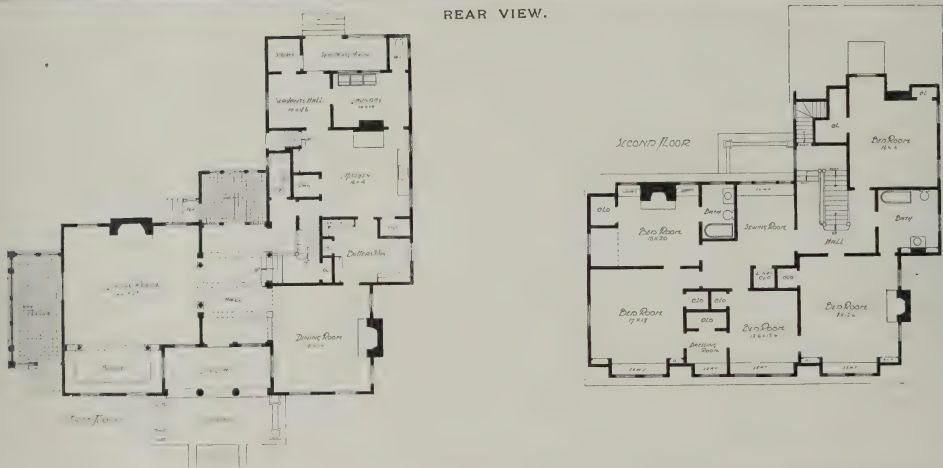
A RESIDENCE AT CHESTNUT HILL, MASS.—See page 20.

MR. HORACE S. FRAZER, ARCHITECT.





REAR VIEW.



FRONT VIEW.

A HOUSE AT WOODMERE, L. I.—See page 21.

MESSRS. ROSSITER & WRIGHT, ARCHITECTS.





LIVING-ROOM.

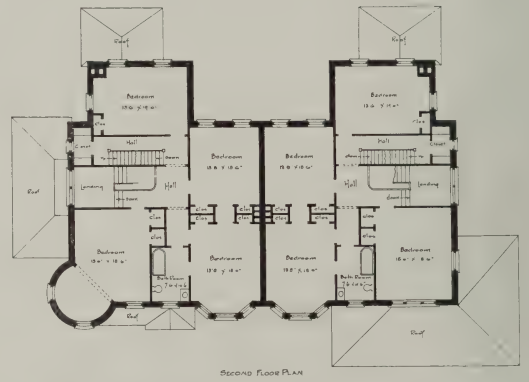
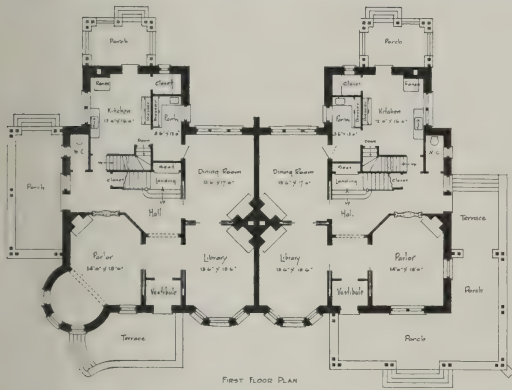


DINING-ROOM.

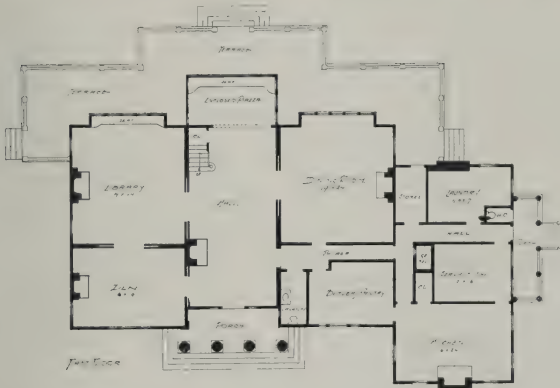
A HOUSE AT WOODMERE, L. I.—See page 21.

MESSRS. ROSSITER & WRIGHT, ARCHITECTS.





A PAIR OF HOUSES ON LINCOLN DRIVE, GERMANTOWN, PA.—See page 20.  
MR. LAURENCE VISSCHER BOYD, ARCHITECT.



RESIDENCE OF WILLIAM H. SANDS, ESQ., AT AIKEN, S. C.—See page 16.

MESSRS. HOPPIN & KOEN, ARCHITECTS.



**"WHITE HALL," THE HOUSE OF H. M. FLAGLER,  
PALM BEACH, FLA.**

(Continued from page 3.)

relief, and is green and cream. The splendid sideboards, china closets, the chairs, the long dining table are entirely in keeping with the rich character given the room by its architectural setting, and were expressly made for this room. Adjoining it is a small breakfast room in ivory enamel; the ceiling ornamentation is tipped with gold; the furniture is mahogany with bronze mountings.

And then, beyond, is the kitchen, with pantries, serving rooms, storage rooms, and other dependencies filling an extension beyond the main building. In a corresponding space on the other side are two offices, one of which is set apart for Mr. Flagler's personal use.

The rear of the house—in the space on the further side of the court and corresponding to the hall—is filled with a ballroom. Very splendid and grand it is, as are all the great "show" rooms. The style is Louis XV., and the color scheme white and gold. Five great openings on either side form the motif; on one side they are windows; on the opposite side they are curtained doorways. The spaces between have round, arched panels filled with mirrors. The hangings and draperies are of Rose du Barry silk. The decorations are almost purely architectural, the doorways, windows, and mirror panels being encased within a wood paneling. The panels over the doors and windows are copies by Gatty, of Paris. The ceiling is treated in large rectangles, the alternate ones being the richer. The room is lighted by lights dependent from the ceiling, and by side lights. The furniture, as befits a ballroom, is confined to low stools and benches.

As for the bedrooms, which fill the upper story, I have neither the space nor, I may frankly admit, the ability to describe them. Such gentle charm, such delicate variety, such delightful furnishings, such taste in wall coverings, in furniture, in arrangement, I rarely expect to see surpassed. The bedrooms, even of the master and mistress of a palace like this, are hardly to be ranked as show rooms. They are certainly not that in this house of great "show" rooms, nor are they the modest living apartments one sometimes associates with the idea of bedrooms. But they are ample, spacious apartments, exquisitely furnished, each given a real note of individuality, and each leaving nothing to be desired for comfort and convenience. Everything has been especially designed for its place, and each room is treated consistently in a definite period.

And the rest? Unlike a great country house in the North, this vast Southern palace has no outbuildings and subsidiary structures. One does not keep a stable of horses at Palm Beach, and one does not need elaborately planned and cultivated gardens to set off one's house, even if fabulous sums have been spent upon it, and no pains been spared to make it splendid without and sumptuous within. Plants and flowers, trees and shrubs, grow here unaided and with rare Southern profuseness and rapidity. The Southern life is not the Northern life, but surely every requisite of comfort and elegance has been brought together in this magnificent dwelling by the Southern water.

**A RESIDENCE AT MOUNT PROSPECT AVENUE,  
NEWARK, N. J.**

On pages 4 and 5 will be found illustrations of a residence erected for F. W. T. Stiles, Esq., at Mount Prospect Avenue, Newark, N. J.

The building is of stucco and half-timber. The foundation is of stone with a low underpinning. The superstructure is of Portland cement with a stucco finish in a natural light gray color. The half-timber work and the entire woodwork is of hewn material, and is stained a dark brown color. The sashes are painted ivory white. The roof is covered with shingles and is stained a dull green color. The casement windows with leaded glass lights present an artistic effect.

Dimensions: Front, 38 ft.; side, 70 ft., exclusive of porte cochère. Height of ceilings: Cellar, 8 ft.; first story, 9 ft. 6 in.; second, 8 ft. 6 in.; third, 8 ft.

The hall is a central one, and is finished in a soft brown color, and has a paneled wainscoting six feet in height. The entrance hall is separated from the staircase hall by a beamed archway. The staircase rises from a broad landing, on which there is a nook provided with paneled seats, and an open fireplace, built of Roman brick with the facings and a hearth of the same, and a mantel. The library is treated in a similar manner, and has a bay window with a paneled seat, an angle nook provided with an open fireplace with facings and hearth of Welsh tile and a mantel

shelf supported on brackets with strip panel work, showing the plaster between the same. On either side of the fireplace there are book cases built in, and also paneled seats.

The drawing-room is treated with white enamel, and contains two paneled seats, and an open fireplace furnished with white enamel tiling for the facings and hearth and mantel of Colonial style. The dining-room is finished in a dark soft brown color. The walls have a strip wainscoting, showing plaster panels. The ceiling is provided with strip panels. The fireplace has a hearth and facings of Welsh tile; the over-mantel is paneled the same as the wainscoting. The bay window has a paneled seat, and there is also a china closet built in, with leaded glass doors. The butler's pantry is trimmed with hard pine and is finished natural; it is provided with a sink, drawers, dressers, etc. The kitchen is trimmed with North Carolina pine finished with hard oil. It contains a hearth, with range, sink, pot closet, dresser, etc. The rear porch contains a refrigerator.

The second floor is finished with white enamel, and it contains four bedrooms, large well-fitted closets, dressing-room, and a bathroom, besides a servants' room and bath, provided with a private stairway to



WINDOW IN THE RESIDENCE OF J. W. GOODCHILD, ESQ.,  
WYOMING, N. J.

kitchen. The bathroom has a tiled floor and a tiled wainscoting, and is furnished with porcelain fixtures and exposed nickelplated plumbing. The third floor contains two guest rooms, a trunk room, and a billiard room. The cemented cellar contains a furnace, laundry, fuel rooms, etc. Mr. Philip Henry Ward, architect, Walter G. E. Ward, associate, 800 Broad Street, Newark, N. J.

**WINDOW TREATMENT.**

Two examples of window treatment will be found on this page and on page 17.

The window on page 17 is from the house of F. H. Damors, Esq., New Bedford, Mass., and was designed by Mr. Nathaniel C. Smith, architect, New Bedford, Mass. It shows an exterior of a triple window, placed in an ample expanse of wall.

The window on this page is from the house of J. W. Goodchild, Esq., Wyoming, N. J., and was designed by Mr. J. W. Dow, architect, Wyoming, N. J. It shows the interior treatment of a similar window.

**RESIDENCE OF WILLIAM H. SANDS, ESQ.,  
AT AIKEN, S. C.**

The residence of William H. Sands, Esq., illustrated on page 15 is at Aiken, S. C. The building is of Colonial design, and its principal characteristic is the classic portico at the front which is supported on

Corinthian columns. The house has a brick underpinning, and the superstructure, of wood, is covered with matched sheathing, good building paper, and narrow clapboards, the whole of which is painted white. The roof is covered with shingles and is stained a dull green color. Dimensions: Front, 33 ft.; side, 36 ft., exclusive of piazza and porches. Height of ceilings: Cellar, 7 ft.; first story, 11 ft.; second, 10 ft.; third, 8 ft.

The plan shows a large central hall, which is provided with a paneled wainscoting, ceiling beams, an open fireplace furnished with a tiled hearth, brick facings, and mantel, and an ornamental staircase with a mahogany rail. The trim of this hall, as well as the entire house, is of white pine treated with white enamel. The den and library are treated similar, and each have open fireplaces, while the latter has a paneled wainscoting, ceiling beams, and seat. The dining-room has a similar treatment as the library, except that the wainscoting is six feet in height, and is furnished with a plate rack. The butler's pantry is fitted with drawers, dressers, sink, etc. The kitchen, servants' hall, and laundry are provided with all the best modern conveniences, and the trim of each is treated naturally. The second story contains seven bedrooms and two bathrooms, besides two servant rooms and bath, linen closet, and sewing-room. The bathrooms are furnished with tiled floor and wainscoting, and each is provided with porcelain fixtures and exposed nickelplated plumbing.

The third floor contains eight bedrooms, bathroom, and trunk room. Cellar, cemented, contains furnace and fuel rooms. Messrs. Hoppin & Koen, architects, 244 Fifth Avenue, New York.

**COLORS AND COLOR DECORATION.**

The most valuable colors for decorative purposes are the ochres, which vary from a bright, though not vivid, yellow, to a color nearly approaching a tawny brown. The best ochre produces quiet tints in white and other colors, including a valuable green when combined with Prussian and other blue. In combination with vermilion, Indian, and Venetian red, it produces refined and quiet colors of great value. Most useful reds are light red, Indian, and Venetian red; these may be lightened to any degree with vermilion. The three reds produce good ground colors when mixed with white, white and yellow ochre, or white and black. Lake and vermilion produce a rich crimson. Of all blue pigments, blue ochre is the most permanent, and Prussian blue the most useful. Blue, combined with white, is of the utmost value in preparing permanent greens, and produces pleasant tones. Cobalt blue is highly commended for preparation of clear, bright blues. The finest smalt blue is durable and useful, being unaffected by lime. As a general rule, blues with a slightly greenish tint are more pleasant in decoration than those which incline to purple. Greens for decoration should, as a rule, be mixed with pigments. The ordinary greens of commerce can not be depended upon. Bright and shining greens should be sparingly introduced, being too hard and forcible, but all tones of suitable green may be found in autumnal foliage. Such greens are readily produced with Prussian blue and cobalt blue, and permanent yellow with the ochres, lemon yellow, and raw and burnt sienna. To compounds of these may be added Indian and Venetian reds, Vandyke brown and burnt umber. All greens may be brightened with bright and lemon yellow. Lake, vermilion, Venetian, and Indian red are to be valued for the bright intensity of their colors. All colors of a decidedly neutral character prove tame and ineffective. Beads and chamfers in gold and black are always appropriate and telling in effect on panels. Lines of light or full colors should be sparingly used on borders, finials and crockets in flat paneling. In the painting of medieval times it is noticeable that pure colors are rare; these are most generally toned, and with admirable effect. The absence of the primaries is a rebuke to the writers on theory colors, who lay down the proportions in which they should appear, in a way to indicate that the presence of such colors is indispensable to rich decoration.

The toning of colors is a very simple matter, but it requires system. The adoption of combination changes colors. Where the form of pattern undergoes repetition in stenciled ceilings, the band is the most satisfactory, as it helps to remove, in a considerable degree, the unavoidable hardness of such bands, and a quiet effect will be secured by bringing the counterchanged colors close to one another in intensity.

A good ground for dark oak is made of pure white lead, golden ochre and royal red. Deep orange chrome is sometimes used when a bright tone is desired. The graining color is made of burnt sienna, raw sienna, and Vandyke brown.—Canadian Architect.



## The Household

### CLEANING HINTS.

If linoleum is losing its freshness, says the Woman's Home Companion, it may be restored and made to last twice as long. Melt a little ordinary glue in a pint of water. At night have the linoleum clean and dry, go over it with a flannel cloth dipped in the glue water, and by morning it will have a fine, hard gloss. For dusting ceilings, walls, etc., use cotton-flannel bags with two very full ruffles on the sides and end, to cover the broom. These are also very useful on hardwood and painted floors. An excellent furniture polish is made of equal parts of raw linseed oil and gasoline. Cold tea, without soap, is good to remove stains from varnished wood. Soiled places on wall paper may be removed by applying a paste made of pipe clay and cold water.

### WALLS AND TILE PAPER.

AMERICAN tile paper, which is now made so that it will wear as well as the English, is not "everlasting," as was at first supposed, says a daily paper. If it is varnished with a second coat after it has been hung on the walls it will bear washing with a sponge dipped in lukewarm water, but will not stand scrubbing or washing in boiling hot water, as some dealers have claimed. It should be revarnished after it has been washed, and rubbed until dry with a soft absorbent cloth. When the paper is hopelessly stained with smoke or steam, and it is found necessary to renew it, the wall must be first cleared of the old paper, and then sized over thoroughly before the new is put on, or the latter will not cling to the walls.

The old-fashioned whitewashed wall is one of the most wholesome as well as one of the cheapest for the kitchen. Where paper is used, however, a cheap quality, which may be yearly renewed, is generally selected in preference to anything more expensive.

Tile paper has the advantage of looking neater than the ordinary kind, as its varnished surface resists the dust as no dull surface paper ever can.

### BATHROOM FIXTURES.

CONSTANT improvement is to be noted in the fixtures of the bathroom, remarks a contemporary. Housekeepers of experience welcome the introduction of glass to replace much of the nickel work of these fittings. To keep the metalwork of a bathroom bright necessitates much labor, and wherever glass can be substituted this care is greatly lessened. It is not so much the faucets and small fittings of the place that are difficult to keep unclouded, as the long stretches of nickel pipe that have been a part of plumbing up to the present time. Porcelain lavatories now, however, stand on porcelain legs, instead of nickel, and the new closet with a device for flushing which does away with the tank eliminates more stretches of nickel tubing. At last, too, the overflow arrangement from tubs and set bowls has been improved, the new style permitting the fixture to be easily removed and thoroughly cleansed. This is one of the most important advancements, as the overflow pipe that is still in common use has always been considered the most unsanitary feature of toilet plumbing. Pretty and thoroughly sanitary bathrooms may be fitted up without the expensive glazed tiling that everybody wants, but not all can afford. A bathroom with all woodwork finished in white enamel, the walls hung with a blue and white waterproof papering, the floor fitted with a linoleum, also in a tiled pattern, with porcelain tub and open plumbing, will be found

thoroughly satisfactory. If preferred, the walls and ceiling may be painted in white enamel, permitting them to be washed without injury. This finish for the bathroom is quite within the reach of the moderate purse, and with floor-runners of blue and white Turkish toweling that can be frequently laundered is as sanitary as expensive tile and marble.

### PALMS IN WINTER.

THE majority of the large palms seen in the swell houses are rented for the season, replied a florist when questioned on the subject. Eight to twelve of them to a house. This means that they are left solely in the florist's care. I send a man to the house of my customers every day or so to water, wash, and look after the palms generally, and if for any reason a plant begins to droop it must immediately be replaced with a fresh one.

When the houses of my customers are closed for the summer, the plants are taken out and soon after they are crated and sent to Newport for change of air and scene. The palms in my establishment are pretty hard worked and never go out of commission, unless,

## The Garden

### ORNAMENTAL GATEWAYS.

ORNAMENTAL gateways are coming to be one of the conspicuous features of the American country estates. The independent republicanism of the average American is not given to deferring to the wishes of others unless some obstruction is placed in the way of intruders. Curiosity helps also in inducing people to intrude where, if not wanted, they may also do some harm. Thus the gateway to the country estate has come to be an important feature. A lodge, near at hand, serves as an additional protection to costly lands which may be beautifully decorated. An ornamental gateway is an extremely happy introduction to one's estate, if it is designed in good style and in proper taste. An important point to remember is the scale of the gate. A large estate calls for a large gateway; a small estate must have a small one. The owners of large estates are not likely to commit error in matters of scale, but an extremely handsome entrance gateway, designed and built on a large scale, is a most incongruous entrance to small grounds.

### ROOF GARDENS FOR PRIVATE HOUSES.

THE Hospital calls for the construction of glass-roofed rooms at the tops of private houses, where children may receive the benefits of open-air play free from the dust and dirt of the street. It says: The desirability of children passing a considerable portion of their time in the open air is manifest, while unfortunately it is equally manifest that in most cases town children can not obtain fresh air without inhaling the foulest of dust. Infinitely better would it be for a child to play about in its roof conservatory, as it could do for hours every day, than to take its perfunctory walk or be wheeled through the London streets at a level of only about thirty inches from the ground. We notice that at a recent meeting of the American Pediatric Society, Dr. Northrup reported that by his advice a sunroom had been built on the roof of a private house in New York, a playroom in which fresh air and sunlight can be enjoyed without dust and free from the dangers of the streets, and that the family for whom the structure was built had had the satisfaction of finding that their child, who had been very delicate, grew up strong and well. But our suggestion is not merely

to build a playroom on the roof, but to make this glass-covered room itself form the roof of the building.

### TO KEEP FERNS IN WINTER.

You can keep ferns all winter, said a woman who has done so, to the representative of a contemporary. I always do, and when there comes on a spell of bad weather I give a tea party and drive away everybody's blues with my decorations. I make a centerpiece for my table, arrange the ferns in vases and jardinières, pin them on the lace curtains, and make my room as cheerful as a summer woodland nook, and it doesn't cost anything, but is simply a matter of knowing how. Will I disclose my secret? Why, certainly! I pack the ferns in envelope boxes. I select the sword fern, or any having thick, green fronds, and I am careful to get all sizes and to pick them before the frost comes. I never pull them up by the roots, but cut the little seedy stalks with shears. Then I lay them smoothly in the box and pack them down closely, fill the box full, lay tissue paper over the top, put on the cover and tie it down. Upon reaching home I place the box in the cellar or on the bottom of the icebox, and the ferns within keep fresh for months.



WINDOW IN THE RESIDENCE OF F. H. DAMORS, ESQ., NEW BEDFORD, MASS.

indeed, when one gets disabled through the carelessness of a servant by being frostbitten, or overheated from standing too close to a radiator. I have a good many palms in that condition stored away, which for commercial purposes will be valueless for four or five years, or until an entirely new growth of leaves is induced from the old root.

The Kentia, or umbrella palm, is one of the most popular, most beautiful, and most expensive; one six feet high would sell for \$75. Other favorite house varieties are Latania, or fan palm, and Phoenix.

### THE SMOKING-ROOM.

CONSIDERABLE judgment, remarks a writer, is needed in the furnishing of a smoking-room to make its decoration, while pleasing to the eye, subservient to the main object and to render it thoroughly cozy. It must be purposeful in its arrangement, and yet not so wholly and avowedly consecrated to Mme. Nicotine as to suggest the exclusion of all but her votaries. Muslin window blinds are as much out of place in a smoking-room as chenille curtains, and while the general effect should be far from suggesting the idea of "bare necessities," it should be equally free from overcrowding.





## FURNACE HINTS.

It is well to have a thin bed of clean cinders on the grate, points out E. T. Child in the *Engineering Review*. On this put several crumpled newspapers, and then lay on kindling. About three or four bundles as sold in city stores should be plenty. After this is lighted, add a few shovelfuls of nut or stove coal, and keep all the drafts open. The small coal will ignite in a very few minutes, after which the egg or furnace coal should be added. When this is well lighted the chimney draft should be checked slightly, but not entirely, and the other drafts should be closed. The gas should be allowed to burn off for a few minutes, after which the chimney draft may be checked, and the fire left for the day.

Keep the fire pit full up to the level of the bottom of the firing door. This gives a larger bed of coal, and requires less attention than a thin fire. If the furnace is large enough to properly heat the house, it will need to be attended to but twice daily, except in the most severe weather, when it may be necessary to put on coal at noon. In the morning the drafts should be all opened for a few minutes after fresh coal has been added, and the grate should be shaken till live coals start to come through. Do not shake the grate too much. Do not let the fire burn up too hot when all the drafts are open. Check the chimney draft as soon as possible, and close it as soon as the gas is burned off.

In an indirect draft furnace this may be done more readily than in a direct draft type, as the main damper may be closed as soon as the fire is started up, and then the air check in the indirect pipe may be opened after the gas is burned off. The chimney draft should be kept closed as much as possible, and the air supply to the furnace should be regulated by the damper in the ash pit door. The smoke pipe should be practically cold.

At night, except in cold weather, it will not be necessary to shake the grate. Coal should be added, together with a few cinders, provided they are at hand, and the usual precautions should be observed regarding gas.

In the coldest weather the furnace should be shaken at least twice daily to keep the fire clean and bright. Do not let the bed of coal become thin in mild weather; this is a mistake. Keep the level of the top of the fire up to the bottom of the fire door, and regulate the heat by the depth of ashes on top of the grate. Do not shake too often, and when the fire is resting on a bed of ashes put on fresh coal and get it ignited before shaking.

Always keep the ashes cleaned out from under the grate. The cold air box should be kept wide open at all times except in coldest weather, when it may be about one-half closed, and the balance of the air drawn from the cellar, or, better, from a hall register connected to the cold air box.

The water tank in the air chamber of the furnace must be kept full of water, as moisture is very essential.

## THE OPEN FIRE.

The demand of the time, says a writer in the *Metal Worker*, is for ventilation, and this is necessary alike with furnaces and steam and hot water apparatus. Notwithstanding that the hot air furnace is deservedly popular through furnishing continually a supply of fresh air, there remains the fact that two things can not occupy the same space at the same time, and the foul air in the building must be removed before the fresh, warm air can enter. There can be no better device for removing the foul air than an open fire. Its strong, radiant heat is most agreeable to those who come in out of a chilly atmosphere. By keeping the chimney warm it acts as a strong exhaust and moves the air out of a building to make room for the fresher, warm air. The open fire type of stove acts to a double advantage where used in connection with steam and hot water heating apparatus with direct radiation, for with them no change of air is effected, and the open fire, by exhausting the air from the building, will draw in fresh air through cracks and crevices. If it be an indirect system it will act in the same manner as with a hot air furnace.

BEAUTIFUL writing-tables of Congo wood have foot high backs of beveled glass traced in an odd design by lines of the wood after the manner of leaded window panes.

## A RESIDENCE AT NEW BEDFORD, MASS.

The first illustration on page 6 presents a residence erected for Dr. E. H. Abbe at New Bedford, Mass.

The underpinning is built of blue stone laid ashlar with rockfaces. The building above, of wood, is covered on the exterior with shingles and is stained a soft brown color, and the trimmings and blinds are painted white. The roof is covered with shingles and is stained a dull green. Dimensions: Front, 34 ft. 2 in.; side, 40 ft. 6 in., not including piazza. Height of ceilings: Cellar, 7 ft.; first story, 9 ft.; second, 8 ft. 6 in.; third, 8 ft.

The interior throughout is trimmed with cypress, and the doors are finished natural and the trim is painted white. The entrance doors are of Dutch style. The reception-room, or hall, is provided with a staircase arranged with turned Colonial balusters and cherry rail, newels, etc. There is an open fireplace, built of Roman brick, with facings and a hearth of the same and a mantel of Colonial style. The living-room is provided with a bay window and seat, and an angle nook containing an open fireplace furnished with a tiled hearth and facings, and a mantel. On either side of fireplace there are paneled seats, over which there are book cases built in. The dining-room has a china closet built in, with leaded glass doors. The conservatory off this room is an attractive feature. The butler's pantry is fitted with sink, drawers, and cupboards. The kitchen is provided with a pantry, pot closet, sink, and a stairway to the cellar and to the second and third stories.

The second floor contains a square hall, four bedrooms, and a bathroom; the latter treated with white enameled walls and ceilings, and furnished with porcelain fixtures and exposed nickelplated plumbing. One of the bedrooms has an attractive nook with fireplace.

The third floor contains the servant quarters and ample storage room. The floors are laid with quartered oak in the living-rooms, Alabama pine in the service quarters, and spruce in the bedrooms. The hardware is of brass and the door knobs of old-fashioned glass. The cellar, cemented, contains a furnace, laundry, fuel rooms, and storage space. Cost \$4,100 complete. Mr. Nathaniel C. Smith, architect, New Bedford, Mass.

## A RESIDENCE AT NEW BEDFORD, MASS.

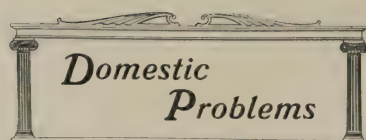
The second residence illustrated on page 6 was built for Dr. E. H. Abbe, at "Abbey Terrace," New Bedford, Mass. The underpinning is of rock-faced blue stone laid up ashlar. The building above is of wood, and the exterior is covered with matched sheathing, good building paper, and clapboarding. The entire house is painted Colonial yellow, and the trimmings are painted ivory white. The roof is covered with shingles and is stained a moss green. Dimensions: Front, 52 ft. 6 in.; side, 26 ft., exclusive of piazza. Height of ceilings: Cellar, 7 ft.; first story, 9 ft.; second, 8 ft. 6 in.; third, 8 ft.

The interior throughout is trimmed with white wood. The plan shows a central hall provided with an entrance door with stained glass windows on either side. The ornamental staircase is provided with a flower bay window on the second landing. The woodwork is painted ivory white. The staircase is treated similar, except the hand rail, which is of mahogany. The den is painted black, with red burlap walls. The living-room is treated with ivory white paint, and has a bay window with a paneled seat, and an angle nook provided with an open fireplace furnished with a tiled hearth and facings, and a Colonial mantel with columns and mirror. There are small windows on either side of fireplace, and also paneled seats, and the whole is separated by an archway.

The dining-room is furnished with a flower bay window, and it has a china closet, with leaded glass doors of Colonial style, in one corner, while in the opposite corner there is an open fireplace with tiled trimmings and mantel. The butler's pantry is fitted with bowl, dresser, drawers, etc. The kitchen is trimmed with yellow pine, and it has two pantries, sink, range, etc. The rear hall, stairway, and entry are located conveniently.

The second story is treated with white paint, and contains four bedrooms with large closets, linen closet, and a bathroom, the latter furnished with porcelain fixtures and exposed nickelplated plumbing. The principal bedroom is provided with an angle with fireplace and seats. The servant quarters and trunk room are located on the third floor. A cemented cellar contains furnace, laundry, fuel rooms, etc. Mr. Nathaniel C. Smith, architect, New Bedford, Mass.

Nothing has done more to promote the advancement of architecture in this country of late years than the development of schools of architecture. The architectural societies help in this work also, but as their membership is exclusively professional, their influence is less directly felt by the outside public.



## SUPPORTING A FAMILY ON FIFTEEN CENTS A DAY.

The New York Herald makes a contribution to the question of household expenses in an account of a family who live in a flat of two small rooms in Long Island City. They pay no rent, and while the husband is supposed to receive good wages, the wife only receives fifteen cents from him daily. They are a Norwegian family with two children. The wife gives a pitiful account of their daily living. Almost immediately after our marriage, she said, my husband began limiting me to fifteen cents a day, and even after the little girl came and needed fresh milk and other things to keep her well he refused to increase the allowance.

I tried all sorts of cheap food to see which would be the most filling and the most lasting. There's nothing quite so good as beans, I've found, but we do get dreadful tired of them.

I buy soup beans—they can be cooked in so many different ways, though sometimes I take a notion to have plain white beans. The children are fond of onions, and they like them fried. Cooked that way they are very good to take the place of meat.

Soup beans cost six cents a quart, and one day I buy a quart of these, a loaf of bread for four cents, and five cents' worth of beer for my dinner; then the next day I buy onions instead of beans, which cost just the same a quart. This leaves me nothing for salt and pepper, so the only way I can get these necessities is to substitute oatmeal for the beans or onions once in a while. Oatmeal is cheaper than either, and goes a long way, though we get tired of it quicker than we do of the other fare. By buying it I have a few pennies left for salt and pepper.

We drink water for breakfast and supper, and when I have my mug of beer for dinner I give the children a sip, but they don't seem to care very much for it. I wish the little ones might have milk to drink instead; that always makes children healthy, at least people think it does. My Ida and Henry Bernard don't look thin and hungry, though; do they? Henry Bernard is teething; that's what makes him so pale, but he isn't cross, like most babies at his age.

The child in question was so dirty that his natural color could scarcely be distinguished underneath the layers of grime. His little body was round and his arms and legs were as chubby as those of a child reared in luxury. Though it was the noon hour, when most young mouths are ready and anxious to be filled, this small tot sat and toyed with a dish of oatmeal in a dilatory manner.

## \$3,500 IN NEW JERSEY.

The New York Sun has continued its studies in living on \$3,500 per year with experiences from various localities. A gentleman from New Jersey contributes his efforts to live on that sum. He has a house on a nicely paved street within five blocks of the water, with a garden and trees of his own, and estimates his yearly expenses as follows:

Rent .....	\$400
Food .....	750
Servant .....	180
Clothes .....	500
Railway fares .....	75
Light and heat .....	100
Insurance .....	290
Savings bank .....	210
Personal expenses .....	250
Club .....	100
Pew rent .....	50
Garden .....	75
Contingency fund .....	500
	<b>\$3,480</b>

The contingency fund includes amusements, vacations, doctor's bills, although, he tells us, that, thanks to the good, fresh air and wholesome life of the suburbs, this is seldom, and such incidental outlay as is necessary from time to time. It includes also the cost of such entertaining as is done, which does not come within the ordinary household expenses.

If there are any unusual expenses to meet they economize on other items. The club item covers dues, tips, and such subscriptions. The personal expenses are his own. He takes a drink only occasionally and likes a pipe just as well as a cigar, or they might be heavier.



## Sanitation

### SANITARY CHARACTERISTICS OF MADE GROUND.

ARCHITECTS and house owners should be interested in learning the results of an investigation recently conducted by Dr. W. G. Savage and Mr. J. H. Sugden, bacteriologists for the Corporation of Cardiff, Wales, to determine to what extent made ground should be regarded as a menace to the health of the occupants of houses built thereon, and how far local authorities are justified in passing by-laws prohibiting the use of such ground as building sites. The following deductions are made, based on a long and careful examination: "The refuse as deposited contains a very large number of organisms, many of which are in the main different from those met with in ordinary soil. These made-soil organisms, as they may be called for convenience of reference, rapidly diminish in number under the conditions under which they are placed. This diminution goes on for the first two or three years. After two or three years, however, the ordinary soil organisms begin to invade this material, and apparently thrive abundantly in the rich organic material available to them. This causes a marked increase in the total number of organisms present in the soil, and the total number remains large, until in quite old soils a diminution is again met with. These soils begin to lose their special bacterial content after two or three years, and from that time begin to take on the characters of ordinary soil."

### FILTHY CELLARS.

ARCHITECTS, says an exchange, are often called upon to make alterations in existing buildings. In so doing, a building must be measured from cellar to roof loft. In the pursuance of this duty the revelations of filthiness are astounding. The general public are entirely unaware of the poisonous conditions of stores and dwellings. In many instances the cellars have been the dump for every waste arising from families and from business, and it lies year after year in a neglected mass of rotten filthiness that is absolutely appalling. Not long since, a firm of furnace dealers were called upon to install a furnace in a building occupied by a confectionery—the condition of filth in the cellar was beyond belief. For years the cellar had been the dump and catchall of the business, and so extremely foul was the cellar that the men could only endure the work in such a spot for short intervals, and then had to retire to the open air for recuperation; the stench was indeed unendurable.

This is no isolated case, for while all cellars are not so vile as the one in question, yet it may truthfully be said that a vast majority are so filthy as to be veritable plague spots.

Just what remedy can be applied may be a debatable matter, but the Board of Health ought to rigorously inspect all cellars, at least twice a year, and see to it that they are cleaned out. A dirty cellar is a direct menace to all in the house above it, and partially so to the houses on each side.

### PAINTING BRICK WALLS.

THE painting of brick walls, points out a contemporary, is mainly for the purpose of preservation, but the fact should not be forgotten that paint is an excellent preventive of dampness and that a house with well painted walls is drier and consequently healthier than one with the walls exposed. The best paints for this purpose, where the color is not an objection, are the natural ochre pigments united with zinc oxide. Whatever impairs the usefulness of a paint, by attacking its tenacity and waterproofing quality, is to be avoided.

### BACTERIAL TREATMENT OF SEWAGE.

AN English writer, in discussing the bacterial treatment of sewage, points out that the anaerobic process is more in accordance with the teachings of nature, and possesses certain specific advantages, such as the averaging of the sewage flow, the greater ease with which regular periodic working of the filters can be obtained, the absence of trouble from loss of water capacity through deposition of solids, and the easier and cheaper cleansing, if necessary. The necessity for covering a septic tank seems desirable, since it prevents disturbance of the bacterially-active scum, avoids risk of nuisance, and enables use to be made of the gases evolved during the putrefactive process. As regarded the question of the best method of applying the primary effluent to the secondary beds, the author hesitated to express an opinion, since excellent results had been obtained by either method.

### RESIDENCE OF HENRY F. ENGLISH, ESQ., NEW HAVEN, CONN.

If there is such a thing as a distinctive American style of architecture, all experts agree that it is to be found in the country home. American spirit seems to find more adequate expression in rural architecture than in the town buildings. In the residence built for Henry F. English, Esq., on Hillhouse Avenue, New Haven, Conn., and which is illustrated on page 7, a new departure has been made in this direction. The building is designed with Grecian detail throughout the exterior and interior, and the exterior walls throughout are built of Indiana limestone, while the roof is of a green copper. The mansion has an entrance-porch at one side, while the living-porch is placed at the other end; both have Ionic columns and Grecian balustrades. The floors are laid with tile mosaics. Dimensions: Front, 80 ft.; side, 80 ft. Height of ceilings: Cellar, 9 ft.; first story, 11 ft.; second, 9 ft.; third, 8 ft. 6 in.

The interior theme is comfort, and the instant the threshold is crossed the entire effect is changed, for the severity of the exterior is quite in contrast with the homelike atmosphere of the interior. The vestibule has a floor laid with tile mosaic and walls of Vermont marble. The ceiling is of Grecian paneling. The imposing hall is trimmed with mahogany. It has a paneled wainscoting and a Grecian cornice, the space between being treated with a Pompeian red scheme. The principal feature is the large open staircase, which has massive carved newel posts, and rail falling down over the posts with the graceful ram's horn. The broad landing is provided with a stained glass window, which sheds a soft and pleasant light over the upper and lower halls. Beneath this landing are triple arches which form an exit to the rear porch and porte-cochère. The reception-room is treated in an artistic manner. The trim is handsomely carved, and is treated with ivory white with a highly polished surface. The walls are covered with silk and are painted in a floral design. The fireplace has a facing of Pavonazza marble and a carved mantel of special design.

The drawing and music rooms are treated in old ivory, and each is separated from the other by an archway supported on two Ionic columns. The fireplace is provided with Pavonazza marble facings, and a mantel of a particularly handsome design. The columns of the archway are reproduced in the mantel, and also in the brass dog irons. The walls are covered with a ribbed silk painted in a delicate manner. The floors are of white oak and are highly polished.

The sitting-room is trimmed with mahogany, and has a paneled wainscoting, book cases, and an open fireplace provided with Pavonazza marble facings and a massive carved mantel. The billiard-room is trimmed with white oak, and has a paneled wall with the spaces filled in with leather and covered with brass headed tacks in a Grecian design. The fireplace is separated by an archway supported on columns. The fireplace has a tiled hearth and facings, and is furnished with a Norman hood of oak supported on columns.

The dining-room is trimmed with mahogany, and has a high paneled wainscoting, ceiling beams, white oak floor, buffet, and an open fireplace with a tiled hearth and facings and mantel. The butler's pantry and serving-room are trimmed with white maple, and each is fitted up with all the best modern conveniences. The rear hall forms a side entrance, and it has a rear stairway and an elevator.

The second floor throughout is trimmed with white maple. It contains six bedrooms, three bathrooms, boudoir, dressing-room, etc. The fireplaces are furnished with tiled trimmings and mantels. The bathrooms are paved and wainscoted with tile and are furnished with porcelain fixtures and exposed nickelplated plumbing. The third floor contains the servant quarters and bath and trunk rooms. The cellar contains the kitchen, servants' hall, laundry, furnace, fuel room, etc. The late Mr. Bruce Price, of 1133 Broadway, New York, was the architect.

### THE ARCHITECT'S DUTIES.

THE architect should be able to make examinations, and judge correctly of ground or clay upon which foundations are to be laid, computing the safe loads to be sustained, etc. Further, he must be able to know the climatic effect upon various building materials, and often he is called upon to decide values of improved property where it has been involved in litigation, and he is placed as an expert upon all matters relating to modes of construction and value of building materials and construction. The architect must have a practical knowledge of general law, and law of equity, that he may be able to protect his clients, as far as possible, in making his contracts. He is often called upon to decide points of equity in compliance with contracts between owner and contractor; so he should be one who is able to judge of values in material and construction, that he can justly decide between owner and contractor.

## Construction

### WINTER BRICKLAYING.

By STEWART MACGREGOR.

(British Consul at Stockholm.)

A FEW years ago a series of experiments was carried out in Stockholm with a view to deciding the lowest temperature at which bricklaying might safely be carried on. Three different temperatures were decided on, namely: First, 23 degrees Fahrenheit; second, 14 degrees Fahrenheit; third, 6 degrees Fahrenheit. The bricks and mortar were, as to quality and conditions, such as are commonly used here. The walls thus erected during winter were allowed to stand till the following autumn, when they were torn down and the following results noted: Nos. 1 and 2. Perfectly satisfactory. The mortar was quite hard and sound, and had to be scraped from the bricks. No. 3. Unsatisfactory. The mortar did not adhere at all to the bricks, which lay loosely embedded in it. These results tend to prove that, without any special precaution as to material or labor, bricklaying can be carried on in Stockholm at a temperature as low as 14 degrees Fahrenheit.

For lower temperatures it is necessary to heat the sand and water used in making the mortar, and for this purpose very simple apparatus is employed. First, for the boiling of the water, all kinds of contrivances are to be seen in use, including primitive as well as modern boilers. Second, for heating the sand, the common arrangement consists of a circular iron tube 18 inches to 24 inches in diameter and 6 feet to 8 feet long. This is closed at one end with bricks or an iron plate. On the top at this end there is a chimney 8 feet to 10 feet high and 5 inches to 6 inches in diameter. The fuel, which is generally refuse wood from the building under erection, is fed at the open, or partially open, end of the cylinder. This cylinder is often formed of an old boiler tube or a piece of an old iron chimney, etc. For burning coal special grate and chimney arrangements would be necessary, but in no case need they be elaborate or expensive. After placing the cylinder on the ground the sand is heaped on and around it to a depth of 18 inches to 24 inches, and allowed to remain until it gets hot, when it is taken away from where it is hottest and replaced by fresh sand. The mortar should be made in a room where the temperature is kept well above freezing. This temperature should naturally be regulated according to the frost that has to be counteracted. Generally, the builders here make a room of this kind by roughly boarding in a part of the scaffolding, simplicity and cheapness being the prominent characteristics of all the arrangements.

When building in frosty weather the following precautions should be observed: (1) In laying the bricks care should be taken to avoid shifting them after they have once been set in the mortar. (2) Never use old or stale mortar, but arrange supply to correspond with demand. (3) It should be understood that the brick used here is of a light or porous character, which readily absorbs the moisture from the mortar. Hard pressed or calcined bricks and stonework generally are not suitable for building during frosty weather, but edgings or ornaments, etc., of such material can easily be dealt with by slightly warming them before bringing them into position. This can be done by keeping them a few days in a wooden shed heated by an open coke stove. In some cases it is found advisable to cover in with rough boarding the part of the wall where such stonework is extensive. In such cases a very small coke fire is found sufficient to keep the temperature high enough to prevent any damage to the mortar. (4) Plaster or cement work should not be done at or below freezing point unless proper heating arrangements are made.

To sum up shortly: (1) The bricks should be porous and perfectly dry, so that they may readily absorb the moisture in the mortar. (2) The water, sand, and bricks must all be heated.—Report to British Foreign Office.

### CEMENT AND TEMPERATURE.

THE most common method of preventing the freezing of mortar is the use of a solution of common salt for mixing. The usual rule is to add one per cent. of salt to the water for every degree of temperature below freezing, using the minimum temperature to which the masonry will be subjected for the computation. The cold delays the setting of the cement, but there is no mechanical action from freezing, and the results of this method are usually quite satisfactory, the pointing of joints being the only additional operation expected.





### STATELY HOMES IN AMERICA.

STATELY HOMES IN AMERICA FROM COLONIAL TIMES TO THE PRESENT DAY. By Harry W. Desmond and Herbert Croly. New York: D. Appleton & Co., 1903. Pp. 532. Price, \$7.50.

The stately house is a much older institution in America than is generally supposed. The early aristocracy of this country, like the aristocracy of the present day, found a fine house an agreeable mode of expressing their rank and possessions to an admiring public, and some of the most interesting houses we have owe their origin to their laudable ambition.

From an architect's standpoint the ambition is clearly laudable, since it has given them, in our own time, some of their most splendid opportunities, opportunities not only valuable to them in affording a means of expressing their talent and skill, but valuable also in offering large commissions. The stately home has become quite as much of an institution in building in America as it has long since been in England. Our great houses are not yet, except in some occasional instances, the massives piles they are in England; but in numbers, in cost, in architectural effect, in the qualities of stateliness, they form an impressive group of buildings whose interest, as a whole, is of a very considerable order.

It is such houses that the book written by Mr. Desmond and Mr. Croly is concerned with. It is a most notable production. The text is an admirably composed essay on the conditions attending the building of great houses in America; it deals with the men who built them; it treats of the economic conditions that have developed them; it sets forth clearly the circumstances that have made these houses what they are. It is not descriptive, for the abundant illustrations—some hundred and fifty full page illustrations—set forth the aspects of these dwellings more clearly than even the written text of these accomplished authors could possibly have done.

The book is, therefore, a model in architectural book making. It presents its subject in an interesting way, and in a way that clearly establishes on every page thorough mastery of their subjects by the writers. Architectural book making is no easy task, and few writers on architecture understand how to interest their readers. Architectural writing, as a rule, is either highly descriptive, and most detailed at that, or it is word-painting on a very extended scale. Both these errors have been avoided by the present writers, and they have shown a full appreciation of the first rule of rhetoric of having something to say, and saying it as well as they could.

Mr. Desmond and Mr. Croly do not undertake to present a history of great house building in America; in a quite literal sense their illustrations are apart from the text; but they follow the subject in a chronological order and in a general way, and one rises from their pages with a very clear notion of the vicissitudes which have attended the building of dwelling houses in America from the earliest time to the present. That, perhaps, is as much as the general reader cares to know, and if he absorbs that he has gained some useful knowledge which will stand him in good stead in contemplative journeys through our land.

The authors are more concerned with the architectural aspect of house building than with the accompaniments that go to make up the great estate. The stately house, as they understand it, is the stately house within the city and without; but they hardly take up the question of general estate buildings, and of household management and estate conducting they have, properly enough, nothing whatever to say. But they are not unmindful of the furnishings within, of the decoration or of the gardening without. They are not detailed in their statements, but their generalizations are founded on wide observation and with a keen appreciation of the relationship of cause and effect.

The illustrations, as has been said, are very abundant, and amply illustrate the subject. Not every house which can be termed stately is shown in these pages, but many of the more important great houses of America are illustrated here, and generally in several plates. The typography of the book is admirable. It is a worthy book on a theme that here finds worthy treatment.

Books, although intended to be read, are also decorative adjuncts of no small value.

### A RESIDENCE AT CHESTNUT HILL, MASS.

ON page 11 will be found an illustration of a residence of Colonial treatment which has been erected for James D. Colt, Esq., at Chestnut Hill, Mass. The underpinning is built of rock-faced field stone laid at random. The superstructure, of wood, is covered with matched sheathing and then clapboarded. It is painted Colonial yellow with white trimmings. The roof is covered with shingles and left to weather finish. Dimensions: Front, 51 ft.; side, 62 ft., exclusive of piazza. Height of ceilings: Cellar, 7 ft.; first story, 10 ft.; second, 9 ft.; third, 8 ft. 6 in.

The hall, a central one, is trimmed with oak. It has a vestibule paneled with oak and provided with a tiled floor, and on either side of which there is a coat closet. The hall contains an ornamental staircase with a central run of Colonial character. Beneath the stairway there is a den, which is fitted in an attractive manner. The parlor is trimmed with white pine treated with ivory white paint, and has an open fireplace furnished with tiled facings and hearth and a Colonial mantel.

The living-room is treated in a similar manner, and has book cases built in, a paneled seat and an open fireplace. The dining-room is trimmed with oak, and has a bay window and an open fireplace with tiled facings and a hearth and a mantel. The china closet is fitted with drawers, dressers, sink, etc. The kitchen, servants' hall and its dependencies are fitted with all the best modern conveniences. The rear lobby is large enough to admit ice box.

The second floor is trimmed with white pine and is treated with white enamel paint, and contains a large open hall, containing an alcove with seat, three bedrooms, two bathrooms, large linen closet, besides two servant bedrooms and bath, with private hall and stairway over the kitchen extension. Three of the bedrooms have open fireplaces, and all of the rooms have well-fitted closets. The third floor contains three guest rooms and a trunk room. A cemented cellar contains the heating apparatus, fuel rooms, laundry, etc. Mr. Horace S. Frazer, architect, 8 Exchange Place, Boston, Mass.

### A PAIR OF HOUSES ON LINCOLN DRIVE, GERMANTOWN, PA.

THE pair of houses which are illustrated on page 14 have been built on Lincoln Drive, Germantown, Pa. These houses vary from the usual design for double houses inasmuch as the result presents the appearance of one large house instead of two smaller ones. They are constructed of local stone varying in color, and laid with rough faces, and neatly pointed in cement. The roofs, porches, and dormers are covered with cedar shingles and left to weather finish. The sash and all trimmings are painted ivory white. Both houses being treated the same, one description will suffice.

The entire first floor, except the parlor, is trimmed with red oak and is stained antique brown. The vestibule is treated in a similar manner and has a tiled mosaic floor. The hall contains an ornamental staircase, on the landing of which there is a paneled seat. The parlor is trimmed with white pine, and is treated with white enamel paint, and contains an open fireplace with ornamental iron backs and jambs, ivory white tile facings and hearth, and a wood mantel finished with enamel white. The library and dining-room are separated one from the other by double sliding doors, and each is provided with open fireplaces built of Pompeian brick to the height of five feet with oak mantel. The kitchen and butler's pantry are fitted with the best modern conveniences, and each is trimmed with North Carolina pine.

The second story contains an open hall trimmed with oak and finished the same as the first story hall, and four bedrooms, which are trimmed with chestnut and finished natural. The bathroom has a floor of white vitrified tile with a Troy border, and the side walls tiled to a height of five feet with ivory white tile and moulded cap. The woodwork is treated with ivory white enamel. This bathroom is furnished with porcelain fixtures and exposed nickelplated plumbing.

The third floor contains three bedrooms, storeroom, and one large room suitable for a billiard-room. A cemented cellar contains the heating apparatus, fuel bins, laundry, storage, etc. The ceiling of cellar is plastered. Mr. Laurence Visscher Boyd, architect, Harrison Building, Fifteenth and Market Streets, Philadelphia, Pa.

A KITCHEN floor of yellow pine, says an authority, may be oiled with boiled linseed oil and turpentine, or clear oil, if time for drying can be allowed. The floor should be dry and smooth and the room free from dust before beginning. A thin coat of white shellac may first be applied as a filler.



### A RUSSIAN HOUSE.

It is of yellow brick, and is one-storied; it is built round a small garden that is square, says the London Globe. The tiny windows, with their dainty curtains, look out upon one of the most famous roads in Russia. The roof is of sheetiron, and is painted green; it slopes somewhat, but not so much as to prevent the eldest son of the family from dancing on it in moments of madness. Stabling forms one side of the square; another is used as an office, where a number of clerks in uniform and one or two young woman typewriters remain from morn till eve, from eve to close upon midnight, sipping tea, smoking cigarettes, and no doubt also making up accounts. Near the entrance an aged man sits during the summer on a bench outside, against the wall. He is the porter of the business part of the establishment, but his seat is close to the back gate, so that he can see all who enter the yard. One ruble, or two shillings and two pence, a week is allowed to the housekeeper for distribution among beggars, and it is rare that they call without receiving food. Admittance is given by a clumsy looking peasant, to whom a livery imparts neither elegance nor dignity. To right and left open the reception rooms, which are spacious, well lighted, but somewhat low, and elegantly furnished in the style of Western Europe. The dining-room possesses a fireplace and two monumental stoves, reaching almost to the ceiling, and so placed in the wall that they warm two rooms at the same time. It adjoins the buffet, and as the door of it is almost always open, the discussions of the servants may be heard by those who are sitting in the dining-room. The salon has no furniture, but mirrors with gilded frames, chairs upholstered with blue silk, a grand piano in one corner, and a gigantic candelabrum, with oil lamps that fling their light upon the parqueted floor. There is a card-room, too, and the boudoir of the lady of the house, which is crowded with pictures and knickknacks and furniture. Scarcely a book in any of these apartments; scarcely a newspaper; the pictures are Italian, or are paintings of local artists, and represent Russian scenes.

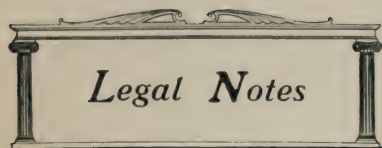
What strikes a stranger after a short visit to this house is the utter want of privacy. For as the building is only one story high, it is obvious that to go from one end to the other it will be necessary to pass along a corridor, or to go through various rooms. Where the corridor exists, it is fairly wide, and in order to accommodate all the members of this very numerous household, certain portions have been separated by means of curtains, and are assigned as bedrooms to the maidservants. But, except for the father and mother of the family, no one is really much better off. The bedrooms are all at one corner of the building; the boys sleep in one, the daughters in the other, and in one of them a third of the room has been shut off by a screen for the governess. There are no keys in the locks.

Perhaps the most sacred place in the house is the bathroom. It is a small apartment, formed in the corridor by means of a wooden partition, and certainly containing nothing in the way of accommodation or furniture to justify the almost religious awe in which it is regarded by the family. No one, but members of the family and guests, is allowed to splash about in the steaming waters of the bath, which is continually being got ready by a servant with the aid of a thermometer.

The garden, which forms the square around which the house is built, is, of course, useless in winter, but in summer it is pleasant to sit under its high towering acacias, white with bloom, and to listen to the sound of water as it falls into the pool of the fountain, where goldfish are at play. Here, too, in the wooden veranda, the family dine during the summer heat. The change is not necessarily an agreeable one, for the gnats are so numerous that it is only possible to get relief from them by burning feathers on a tray somewhere near the table, but this, as often as not, drives the diners away as well. A lamp overhangs the table, and sometimes on summer evenings it is black with insects that cling to the globe in such numbers as to obscure the light.

Here, too, the wondering stranger will be able to note how little the idea of caste seems in some ways to have taken root in Russia. A beggar will appear at the table during luncheon and pour out his piteous tale, or the little son of one of the innumerable male servants will approach and play, and the members of the family, instead of sending him away, will call out to him.





## Legal Notes

### ASSIGNMENT OF LIEN.

UNDER Comp. Laws, Section 10,734, relative to mechanics' liens, provides "that all liens or claims for liens which may arise or accrue under the terms of this act shall be assignable." It is not necessary that the laborer or materialman first file a statement of his claim to make it assignable. *McAlister vs. Des Rochers et al.*, 93 N. W. Rep. (Mich.) 887.

### BUILDING ON ANOTHER'S LAND.

A JUDGMENT or decree establishing a lien on a building alone, separate from the real estate, and ordering it sold to satisfy the lien, necessarily adjudicates the question of the nature of the improvement, and, in effect, decrees it to be personal property. *Shull et al. vs. Best et al.*, 93 N. W. Rep. (Neb.) 753.

### CLAIM FOR INTEREST.

PLAINTIFFS, under contract for work done and materials furnished, were to be allowed a specific price for each item. *Held*, in an action to recover thereon, they were entitled to interest on the claim from the time of the demand for its payment. *Sweeney et al. vs. City of New York*, 66 N. E. Rep. (N. Y.) 101.

### CONTRACT WITH ARCHITECTS.

ONE'S aid, whereby a firm of architects get a contract for work on a building, is sufficient consideration for the firm's agreement to pay him part of the commissions. *Lord et al. vs. Murchison et al.*, 80 N. Y. Supp. 321.

### DEFECTIVE PLASTERING.

WHERE, in an action by an owner of a building against the contractor for damages caused by the falling of the plaster, the only allegations of the petition were that the material furnished was not good, and that the work was not performed in a workmanlike manner, plaintiff was not entitled to recover if the falling of the plaster was caused by the too rapid drying, even though the drying was occasioned by defendant's failure to properly close the doors and windows. *Tausig vs. Wind*, 71 S. W. Rep. (Mo.) 1095.

### EMPLOYE OR SUBCONTRACTOR.

ONE who contracts with a subcontractor to have the sole hauling, at a certain amount per hundredweight, of all the cement needed for the structure, not being bound to personal service, and the amount of work requiring assistants, is not an employee, but a subcontractor of the subcontractor, and therefore not within Rev. St. 1898, Sections 3314, 3315, giving a lien to a principal contractor, subcontractor, or employee of either who performs any work or labor for, in, or about the erection or construction. *Farmer vs. St. Croix Power Co.*, 93 N. W. Rep. (Wis.) 830.

### EMPLOYER AND EMPLOYEE—LIABILITY FOR INJURIES.

A CARPENTER employed by defendant placed a hammer on a cross-piece of a ladder, and, owing to some movement of the ladder, the hammer fell and injured another servant of defendant. *Held*, that the act of the carpenter in placing the hammer where he did could not be imputed as negligence to defendant, as contributing a defect or as creating a danger of which plaintiff should have been warned. *Fay vs. Wilmarth et al.*, 66 N. E. Rep. (Mass.) 410.

### SUPERINTENDING CONSTRUCTION—ACTION FOR SERVICES.

A COMPLAINT alleged that defendant had agreed to pay plaintiff a certain per cent. of the cost of a building in consideration of his superintending the construction, and the defense was that there was a contract to pay plaintiff a certain sum which had been paid. The court instructed that if the jury should find that plaintiff believed the contract was on a per cent. basis, and defendant believed it was for a certain sum, their minds had not come together so as to make a contract, and that, if no contract was made, they should award such sum as they should find plaintiff's services reasonably worth. *Held*, that the instruction was proper, as in effect telling the jury that if the parties did not come to an agreement there was no special contract. *Burton vs. Rosemary Mfg. Co.*, 43 S. E. Rep. (N. C.) 480.

### A HOUSE AT WOODMERE, L. I.

ON pages 12 and 13 will be found illustrations of a house recently erected at Woodmere, Long Island, by the Woodmere Land Company, of which R. L. Burton, Esq., is the owner. Like all the Woodmere houses, much attention has been given in the developing of a perfect house, so far as it is possible to make a home complete, with artistic elevations, plenty of bright, cheerful rooms, good sized bedrooms, plenty of bathrooms, and a kitchen and its dependencies, with the servants' dining-hall on the first floor, and separate rooms and a bath for the servants in the second story.

The underpinning is built of red brick laid in red mortar. The exterior walls are lined with brick, thereby insuring a house with greater warmth for winter uses, and the framework is then covered diagonally with matched sheathing, building paper, and shingles, the latter stained a soft brown color. The trimmings are painted cream white, and the blinds are painted a light olive green. The roof is covered with shingles and left to weather finish. Dimensions: Front, 65 ft.; side, 66 ft., exclusive of porch. Height of ceilings: Cellar, 8 ft.; first story, 9 ft.; second, 9 ft.; third, 8 ft. 6 in.

The loggia at the front is paved with Dutch tile. The hall, which is central, is trimmed with white pine and is treated with ivory white paint. It has a colonnaded effect with a beamed ceiling. Part of the partition between the hall and dining-room is filled in with spindlework. The staircase, which is of an ornamental character, is recessed into a staircase hall, which is separated by an archway supported on columns and pilasters. The den, which is placed at the end of the hall, is provided with a tiled floor, etc. The living-room, of large dimensions, is also trimmed with white pine and is treated with white paint. This living-room has a large alcove, which is separated from the living-room by an archway, which is supported on Colonial columns with paneled bases, and provided with a paneled seat extending around the same. A French window, from the living-room, opens into the sun-parlor, which is enclosed with glass and is heated in winter. The fireplace is attractive with its hearth and facings of Dutch tile, red, and enclosing the entire breast up to the mantel shelf, which is supported on ornamental iron brackets. The dining-room has a plate rack, wooden cornice, and an open fireplace furnished with tiled facings and a hearth and a Colonial mantel. The butler's pantry is fitted with sink, drawers, dressers, and cupboards complete. The kitchen, servants' hall, and laundry are trimmed with ash, and are furnished with the best modern conveniences. The toilet room is conveniently located.

The second floor is trimmed with white pine treated with white paint. It contains a large open hall, sewing-room, five bedrooms, and two bathrooms; the latter are provided with tiled wainscoting and paved floor, and are furnished with porcelain fixtures and exposed nickelplated plumbing. The third floor is treated similar, and it contains two guest rooms and bath and two servant bedrooms and bath, and also a trunk room. The cellar, cemented, has a hot water heater, fuel rooms, etc. The house is provided with electric lights and bells and all the necessary fixtures to be found in a newly appointed house. Messrs. Rossiter & Wright, architects, 95 Liberty Street, New York City, N. Y.

### SATINWOOD FURNITURE.

WE are promised a vogue of satinwood furniture the coming winter, says a contemporary, and nothing is daintier or more artistic for certain rooms—my lady's boudoir, a small drawing-room or a bijou reception-room.

In employing the delicate and beautiful wood the best eighteenth century models are most appropriate. One art furnisher is showing a collection of satinwood reproductions, remarkable not only for their refinement of form and beauty of style, but also for their perfection of workmanship and a notable adaptation to modern requirements of comfort. For bedroom furniture nothing can be so surpassingly lovely as the satinwood dressing table. Many of the other pieces are for drawing-room decoration, and they have the merit of harmonizing with either French or English eighteenth century treatments. There is no wood more exquisite in grain and texture, and none which lends itself more readily to painted ornament. In past times eminent artists have not disdained to employ their talents in this decorative work, and the modern workmen repeat faithfully and with spirit the choicer designs of Peroglesi or Angelica Kauffmann. Painted satinwood is not only an ornament in itself, but as time goes on it is likely to acquire a durable and increasing value.

IN a new crematorium being built at Leeds, England, the actual cremating chamber will not at any time be visible to the mourners. When brought out of the chapel, the coffin will be placed on a movable chariot, and passed through an ante-lobby into the chamber, a curtain falling behind it as it does so.



The following list of New Patents relating to Building and Sanitary Science is prepared expressly for the SCIENTIFIC AMERICAN BUILDING MONTHLY by MUNN & Co., Solicitors of American and Foreign Patents.

A PRINTED COPY of the specification and drawing of any patent in this office for 10 cents, if exact date or number is furnished. Remit to MUNN & Co., 361 Broadway, New York.

### BRICK, STONE, AND TILE.

BUILDING BLOCK AND WALL.	F. E. Kildner, Denver, Col. November 3	743,391
METAL ROOFING TILE.	A. H. Memmler, Los Angeles, Cal. November 10	743,905
HOLLOW BUILDING BLOCK.	H. L. Bynum, Brazil, Ind. November 17	744,480
TILE.	J. M. Coffield, Bellair, Ohio. November 24	745,000

### CARPENTRY.

SLIDING AND SWINGING SASH WINDOW.	G. Hayes, Mt. Vernon, N. Y. November 3	742,860
PIVOTED WINDOW.	O. A. Essig, Canton, Ohio. November 24	744,733
ADJUSTABLE ROLLING WINDOW.	J. C. Rowe, Indianapolis, Ind. November 24	744,953

### CONSTRUCTION.

CONSTRUCTION OF CEILING OR FLOORS.	H. Eggert, Berlin, Germany. November 3	742,849
METAL WINDOW FRAME.	W. J. Klemm, Chicago, Ill. November 3	742,999
COMPOSITE STRUCTURAL MEMBER.	J. Kahn, Detroit, Mich. November 3	743,086
BUILDING STRUCTURE.	Ellienger and Kopczynski, Boston, Mass. November 3	743,202
COWL.	W. J. Kayser, Greenbay, Wis. November 3	743,390
CONSTRUCTION OF COLUMNS OR POSTS.	L. J. Slike, New York, N. Y. November 10	743,705
REVOLVING METALLIC STRUCTURE.	L. Christenson, New York, N. Y. November 10	743,828
BUILDING WALL CONSTRUCTION.	M. Garvey, New York, N. Y. November 17	744,185
CONSTRUCTION OF WALLS.	A. Lugino, Berlin, Germany. November 17	744,374
BUILDING STRUCTURE.	W. R. Gervais, Chicago, Ill. November 17	744,527
WOOD COLUMN.	E. Koll, Chicago, Ill. November 17	744,556
BUILDING CONSTRUCTION.	A. Menezarski, New York, N. Y. November 17	745,068
SKYLIGHT.	J. Degenhardt, Cassel, Germany. November 24	745,310

### ELEVATORS.

SAFETY DEVICE FOR ELEVATORS.	F. D. Potter, Linden, N. J. November 10	743,023
ELEVATOR.	N. H. Hultgren, Philadelphia, Pa. November 17	744,346

### FIREPROOFING AND FIRE EXTINGUISHMENT.

FIRE-RESISTING WINDOW.	G. Hayes, Mount Vernon, N. Y. November 3	742,868
FIREPROOF GIRDER OR BEAM.	W. N. Wight, New York, N. Y. November 3	742,943
FIREPROOF BUILDING STRUCTURE.	W. Klinck, Philadelphia, Pa. November 3	743,000
FIREPROOF METAL WINDOW.	Kunisky and Klenem, Chicago, Ill. November 3	743,088
FIREPROOF CONSTRUCTION.	H. L. Kubernuss, St. Louis, Mo. November 3	743,295
FIRE CURTAIN.	J. W. Reno, New York, N. Y. November 17	744,404

### HARDWARE.

COMBINED LOCK AND LATCH.	J. F. Keverline, Coalhull, Pa. November 3	742,875
WINDOW FASTENER.	O. C. Little, Menasha, Wis. November 3	742,882
VENTILATING SASH LOCK, ETC.	J. C. Blair, Newark, N. J. November 3	743,137
HINGE.	A. C. Haycock, Sparckhill, Eng. November 3	743,270
ADJUSTABLE BURGLAR PROOF WINDOW FASTENER.	N. S. Hillyard, St. Joseph, Mo. November 3	743,283
LOCK.	L. Faust, Rockford, Ill. November 10	743,475
LATCH.	S. S. Niles, Oakpark, Ill. November 10	743,545
LOCK.	E. H. Dimock, Dorchester, Mass. November 10	743,695
LOCK AND LATCH.	H. J. Volght, New Britain, Conn. November 17	744,134
SASH FASTENER.	J. W. Buchanan, Asheville, N. C. November 17	744,473
SASH LOCK.	W. B. Weaver, Lakeland, Fla. November 17	744,654
SASH FASTENER.	E. W. Hasenpflug, East Cleveland, Ohio. November 24	744,755
SASH BALANCE.	W. Berry, Chicago, Ill. November 17	744,905, 744,996

### HEATING AND VENTILATION.

RADIATOR.	W. C. Peers, South Elliot, Mo. November 10	743,749
VENTILATOR.	E. P. Oliver, Boston, Mass. November 10	743,987
GAS RADIATOR.	T. E. McNeill, New York, N. Y. November 24	744,787

### MISCELLANEOUS.

KNOWLEDGE SCAPFOLDING.	W. Harrison, Grand Rapids, Mich. November 17	744,194
SCAPFOLDING.	C. B. Cummons, Charleston, Mo. November 24	745,094

### PLUMBING.

WATER CLOSET.	P. H. Hardin, Chicago, Ill. November 10	742,806
APPARATUS FOR FLUSHING AND VENTILATING TRINKALS.	J. Le Beau, Windsor, Canada. November 10	743,528
FLUSHING TANK FOR WATER CLOSETS.	E. G. Watrous, Chicago, Ill. November 17	744,139

### TOOLS.

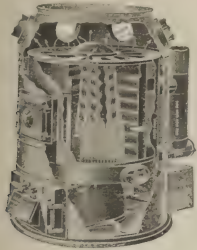
CARPENTERS' LEVEL AND QUADRANT.	W. Potter, New York, N. Y. November 3	743,100
CARPENTERS' FRAMING SQUARE.	W. B. Mahan, Springfield, Ill. November 10	743,900
PLUMBS LEVEL.	W. B. Bradshaw, Ennis, Texas. November 24	745,146



## Publishers' Department

### WARM-AIR GENERATORS.

A WELL accepted principle in heating is to warm a great volume of air by bringing it into actual contact with an extensive and properly heated surface. This is accomplished by sending the air in separate channels through corrugated cast iron flues or sections, which surround the fire. By sending the air into as many flues as there are sections, it is more thoroughly and evenly heated than by simply passing a body of air over, or next to, a hot surface. This is one of the



WARM AIR GENERATOR.

great advantages reached by the Kelsey system of heating, and the apparatus constructed for the purpose is shown herewith in sectional view. Three sections are removed, showing the inside and outside casings, cast-iron back pipes, etc. The outside casing is of galvanized iron and the upper half is lined with asbestos sheathing, and this, in turn, with tin. Between the inside and outside casing there is a space of three inches. This is an air chamber, and is open to the fresh air supply below, and to the hot air pipes above. The warm air is sent in separate currents through from nine to seventeen corrugated cast-iron flues which form the fire cylinder and combustion chamber. Each flue weighs seventy pounds, and has eight square feet of heating surface. These separate currents of warm air are forced to every part of a building. They move or rise rapidly, and there is no scorched or superheated air, but an abundance of fresh air—enough for heat and ventilation—is properly warmed. These warm air currents are positively controlled and sent in any direction, through long pipes or short ones, to every room in a house, whether in an exposed location or not. Even temperature easily maintained throughout a house is also healthful and economical heating, and is sufficient to lift a heater out of the class of ordinary furnaces. The Kelsey generator, in its ability to keep this even heating, is especially adapted for use in warming wide open interior construction of houses, such as parlors, libraries, halls, and staircases. The Kelsey is also provided with a hot water attachment, at a small cost, that will afford an ample supply of hot water for kitchens, bathrooms, laundry purposes, and conservatories. Its location is entirely under the feed-mouth door, and in position it forms part of the fire cylinder, so that it must be heated, with very little extra fuel cost. When reinforced by an extra pipe running out into the fire and return, it may be used for heating radiation in rooms that it may be impossible to connect with warm air heating pipes. All sizes of Kelsey generators are furnished with cast-iron back pipes. They will not rust out from the action of creosote and soot, as, for example, is the case with the galvanized pipes. There is no difference whatever in the internal construction of the Kelsey—they are made in one grade and quality. There are six sizes of the regular portable style: each size being numbered according to the diameter of the grate surface. In heating capacity the range is from five thousand to ninety thousand cubic feet. In addition to the regular portable form with single feed door, the Kelsey is made with a double feed door for admitting large chunks of wood, and has a wood-burning grate, which can be used when so desired. A handsome ornamental cast-iron front is also made for the portable heater, and this, in combination with the side wings, is used in a brick-set construction, which is frequently specified for schools or public buildings. This heater is adaptable to all new houses, churches, schools, halls, etc., while in process of construction, and to places where the ordinary hot-air system has been used. Generally the same flues can be used, and often one generator takes the place of two heaters. The battery form of placing two or more Kelsey heaters under one dome casing has been demonstrated to be a perfect system for heating and ventilating large resi-

dences. The advantages of this system are that the required quantity of pure warm air is supplied as it may be needed, and there is no waste of fuel, and the expense for operating and keeping in repair is reduced to a minimum. The Kelsey Heating Company has its main offices and works at Nos. 337-341 West Fayette Street, Syracuse, N. Y., with branch offices in New York and Chicago. The James Smart Manufacturing Co., Brockville, Ont., is sole maker for Canada.

### PORTABLE AND READY-MADE BUILDINGS.

In no country has the art of rapidity in construction been so pronounced, in recent years, as in the United States. While most of the European and other nations adhere almost entirely to old-time methods in the erection of buildings, our architects and builders have made stupendous strides in the direction of quick construction of all types of structures. Fully in accord with the spirit of the times are all, or nearly all, of the building operations in this country, until now the speed with which buildings are put up is absolutely astounding.

In this connection we mention the Ducker Company, with its specialty of portable or sectional and ready-made houses, which places it in the front rank of quick builders. A visit to the factory of the Ducker Company affords an opportunity to examine the methods employed, which make it possible, almost, "to build in a day." There one will be shown a design of a house and how the structure is, practically, ready-made, everything being cut to length and fitted by machinery, the respective parts being kept separate in bundles, marked and ready for shipment. In this way upon the arrival of the material at the place desired, no time is lost in measuring, sawing, planing, or fitting, and the erection is accomplished as if by magic.

The business of the Ducker Company has received a great impetus in foreign countries, principally in Cuba, Central America, and South America, on account of the scarcity of skilled labor, machinery, etc., in those regions. One feature of the Ducker buildings which makes them especially attractive to dwellers in tropical climes is their demonstrated ability to withstand seismic disturbances without injury. It was



COUNTRY COTTAGE.

formerly thought that only buildings with abnormally thick walls would outlive shocks of earthquake, but the comparatively light, yet substantial and stable type of structures manufactured by the Ducker Co. has stood this supreme test in unanswerable fashion, as is shown by information we have received from the owner of a Ducker building erected in one of the West India Islands, in which he states, that he personally superintended its erection, was surprised at the facility with which it was possible to accomplish it, and delighted that the two or three slight shocks of earthquake experienced since the house was put up were felt less in it than in any building of native Spanish construction.

The company does not confine itself to the construction of any one style of building, but in its ordinary course of operation manufactures dwelling houses, hospitals, barracks, automobile houses, factories, railroad stations, schools, cottages, and churches. In the accompanying engraving a country cottage is shown, size 20 x 33 feet. Ducker's portable or sectional structures can be taken down and re-erected on another site at a nominal cost, by the local carpenter, or even unskilled labor. These patent sectional buildings may be erected without nail or screw—surely a system that is bound to secure the attention of all seekers after standards of excellence is a matter that is unsurpassed by any industry in world necessities. The system has been adopted by the United States Government as a model of superiority, and awarded a special medal by the Empress of Germany. The Ducker Company, No. 273 Broadway, New York, N. Y., will send, at request, an illustrated catalogue, giving full information about its portable building interest.

### GRANITE ROOFING.

It may be safe to claim that a standard quality of roofing is not achieved unless it requires no recoating. This feature of durability exists in a material called "Perfect Granite Roofing," made of a composition into which pebbles, uniform in size, are pressed by the application of machinery. This quality of roofing is

manufactured to resist acid or chemical fumes, heat, cold, rain, snow, steam, and gas, and withal is so pliable that it may be laid on top of old shingles and made to conform so well that the roof will not be noticed underneath. The material sheds water rapidly and quickly dries. It will not run from roof or siding, stands a tropical sun, resists the hardest rains and the action of flames. The Eastern Granite Roofing Company of New York are the originators and manufacturers of this material. It has been adopted by many of the leading architects, builders, contractors, railroads, coal operators, and manufacturers as the standard ready roofing. This stone surfaced material, shown in the illustration, is scientifically made by skilled workmen on specially constructed machinery. It does not rust like tin, nor like shingles, nor crack like slate. Under all the varying conditions of the seasons it stands impervious. Once washed with rain, the water from this roofing is always untainted, and may be employed for factory, household, and drinking purposes. It is one of the most attractive roofings made, and appears equally well as a siding. For cottages and buildings where the roof is a supplementary beauty to the whole structure, it can be used in ornamental effect in place of shingles. For use on factories, barns, mills, mines, and sheds, it is most practical. Only a tinsmith can lay a tin roof, a carpenter put on shingles, but this accommodating material is shipped ready to be applied by any inexperienced workman quickly and properly by following the simple and thorough instructions furnished with each shipment of goods. Or any enterprising purchaser can lay it himself, and have the economic satisfaction that he has not paid for high-priced labor, railroad fares, and board for workmen while away from home. This waterproof roofing chars only under long continued subjection to intense heat, which makes it particularly desirable for buildings exposed to sparks from locomotives, chimneys, and foundries. In this connection we use the information sent us by the Harrisburg Manufacturing and Boiler Company, that the building on fire was a frame structure, and while the sheathing and rafters were very badly burned, yet the fire did not get through the granite roofing, thus enabling the control of the blaze. Had the roofing material burned rapidly, it would have been impossible to save the firm's buildings, as the fire had considerable headway before discovered. The White-Warner Company, of Taunton, also informs us that a fire occurred a few months ago in its foundry No. 1, and running parallel with it was foundry No. 2, which was saved, as it was covered with granite roofing placed right on top of the shingles, the latter not even scorched, and for good results was superior to the protection given by the tin shingles on the store house. Besides the adaptability of this roofing to cover over wood shingles, it can be put on over old tin, without removing this metal, simply by pounding down the standing joints on lock-joint tin. "Perfect Granite Roofing" has been in use nearly twenty years throughout the country and upon all kinds of structures, and it is known to be thoroughly efficient and durable, whether for the exacting requirements of the roofs of chemical works, bleacheries and dye works, or the lesser demands of the ordinary outhouse. In relation to the vast output of this company's roofing industry, we may state that forty-eight railroad companies are using the material continually. The stock yard buildings at East Buffalo, N. Y., using 400,000 square feet, the new railroad shops at Readsville, Mass., 260,000 square feet, and the Ham-



GRANITE ROOFING.

burg-American pier at Hoboken, N. J., 135,000 square feet of granite roofing, are mentioned to show a few of the large areas possible for the company to cover. One of the latest contracts completed by the company is the covering of the enormous new works of the Lake Shore and Michigan Southern Railroad at Collinwood, Ohio. Each roll of roofing contains 110 square feet, and is 41 feet 3 inches long and 32 inches wide. In laying, each roll covers 100 square feet of surface, allowing a uniform lap of 3 inches for horizontal joints. The weight per roll is 140 pounds. In order to facilitate the work of laying, the company supplies a special mop of a mailable size. The new and extensive works of the Eastern Granite Roofing Company is equipped throughout with the latest improved machinery, invented by its own experts. The address is the Irving Building, West Broadway and Chambers Street, New York, N. Y.



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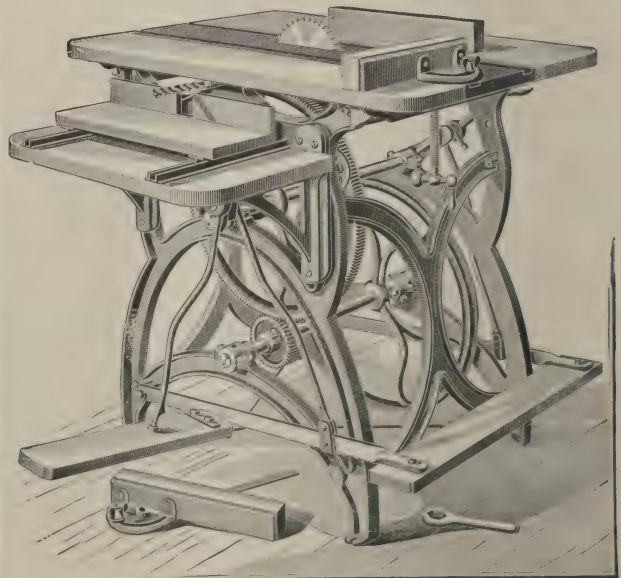
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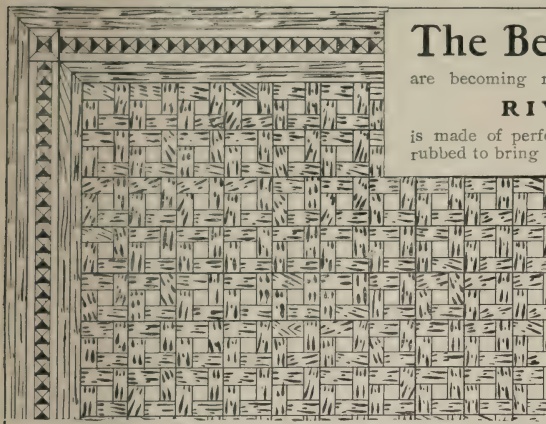
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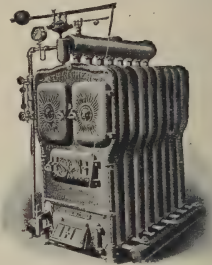
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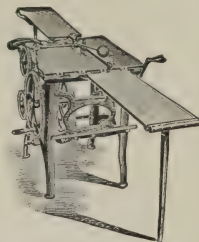
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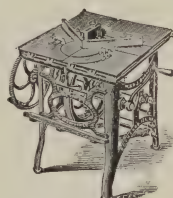
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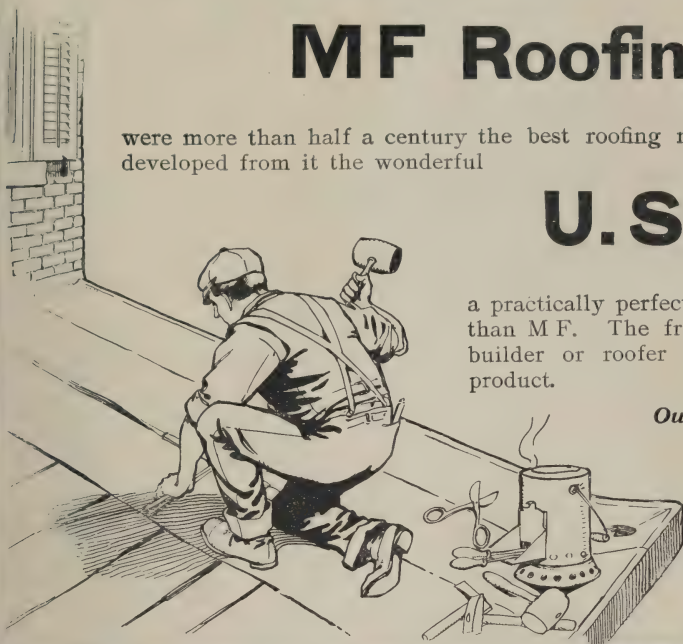
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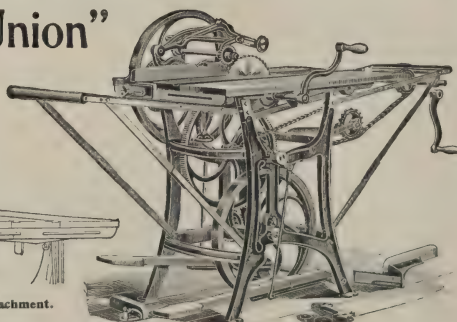
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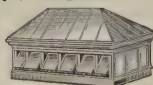
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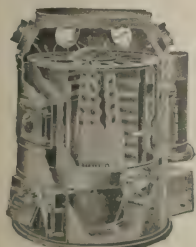
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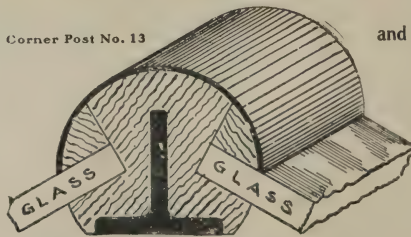
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No. 220

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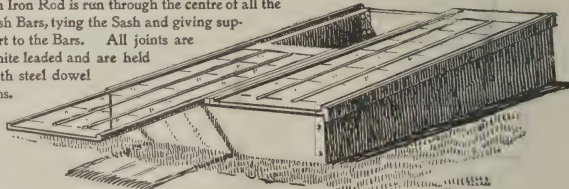
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THE TOWER ENTRANCE.

THE COUNTRY RESIDENCE OF THOMAS HUNT, ESQ., BERNARDSVILLE, N. J.—See page 41.

MESSRS. LORD & HEWLETT, ARCHITECTS.



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NEW YORK, FEBRUARY, 1904.

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\*The engravings presented in this issue are made from photographs taken specially for the SCIENTIFIC AMERICAN BUILDING MONTHLY.

## MONTHLY COMMENT.

An exhibition of dwelling houses was opened in Paris last fall, and included, as its chief exhibits, six full-sized houses built of different materials. The house of the Société d'Épargne des Retraites "l'Etoile du Foyer," a philanthropic and provident institution, contained—in the basement, a washhouse and cellar; on the ground floor a kitchen 10 feet 10 inches by 10 feet 3 inches, dining-room 15 feet by 9 feet 10 inches, and water closet; and on the first floor two bedrooms 11 feet 11 inches by 10 feet 3 inches, and 15 feet 6 inches by 14 feet 5 inches, with a dressing-room. Cost, \$1,500. A workman's dwelling (\$700) contained (on the ground floor) a vestibule, a common room 10 feet 8 inches by 9 feet 10 inches, with (outside these dimensions, and screened off if desired) a kitchen, scullery, and baker's oven, besides two bedrooms 7 feet 8 inches wide, one being 11 feet 5 inches and the other 10 feet 11 inches long. A maison de famille was put up by the workmen's societies connected with the Chambre Consultative des Associations Ouvrières de France. It contains—on the ground floor a vestibule, kitchen, and toilet with separate entrance; and on the first floor an ante-chamber and dressing-room, with three bedrooms, one 8 feet 11 inches by 12 feet 1 inch, one 7 feet 6 inches by 7 feet 11 inches, and one 12 feet 3 inches by 8 feet 11 inches. A maison démontable was constructed with double walls, the space between them being utilized as cupboards. It consisted of kitchen and common room on the ground floor, two bedrooms and bathroom on the first floor, and also three attics and a small loft. The price of each house, built in series of six, is \$2,000. A shooting-box was built in the style of M. Guilmard, who designed the entrances to the stations of the Paris Metropolitan

Railway. A modern house, occupying a site of nine square yards, was built entirely of asbestos bricks, and contained—on the ground floor a large common room, with kitchen and conveniences; and on the first floor three bedrooms, with bathroom. The price (including bath and heater, with pipes) was \$3,600. All the houses were fully furnished, ready for occupation.

THE Art Nouveau continues to excite interest among designers of all classes. As yet it is perhaps best known in America as a decorative art—in furniture, in wall decorations, in ornaments, in fixtures. Of houses and buildings in this style we have, happily enough, few examples as it is understood and practised abroad. Foreign architects, and more particularly French and German, have been quick to apply these new ideas to buildings with results that can seldom be deemed successful, and which certainly are not always happy. And this, perhaps, is not so much because the new forms are unadaptable to building, but because their very adaptability has not been understood or appreciated. If architectural history makes clear one fact more than another, it is that architectural evolution has proceeded slowly; there has never been such a thing as spontaneous architectural development. The exponents of the Art Nouveau have tried to apply new ideas to buildings and to the lesser arts at one and the same time, without entirely comprehending the limits each has.

THAT very useful architectural member, the column, has degenerated in modern practise from a structural element to a decorative device pure and simple. Columns are, of course, still employed in modern design: witness the modern steel cage building which is entirely carried on steel columns—very carefully covered up and hidden from the eye. But the column as a structural member, as an element that has something to do and which does it, has almost gone from architectural methods of the day. If the Greeks did not invent the column—and it was, of course, invented by the first builder who stood a post upright—they certainly made the noblest use of it, and when they used it they used it. The Greek column had work to do and it did it. The Greeks made a useful member most beautiful, but even in its most beautiful form they only employed it as something useful. The Romans went further—or beyond—and transformed the useful column into an ornamental appendage quite unnecessary to the stability of their structures.

## HOUSE EDUCATION.

It is a good sign of the times that educational circles are awakening to the importance of instruction in the schools of matters connected with the house. It is a good sign because it indicates that household matters will not longer be left to instinct but will become objects of trained consideration. It is a bad sign, since we have had to wait so long for this advance.

There has obviously long been need for a wholesale change of public opinion with regard to matters connected with the house. The specialized training of architects has now been a matter of fifty years or more. Whether these gentlemen are still sufficiently trained—whether all architects bring to their profession that breadth of view, that catholicity of taste, that immensity of knowledge, that familiarity with many things they should bring—is still open to question. It is quite probable they do not, although the architect has yet to be found who will refuse a job because it deals with matters he is unfamiliar with. It is more pertinent to point out that our architects have been trained for their profession and that, as a whole, they practise it with considerable skill.

This fact established, and it is established both by the quality of modern buildings and the crowded state of our architectural schools, it is next in order to inquire how far the public as a whole values this training and appreciates it. The evidence on this point is of the most various quality. Building without architects is still commended by some venturesome spirits who have undertaken such work and produced results satisfactory to themselves. Building with architects is commended by those who have had agreeable experiences with them or who have undertaken problems too complicated to be worked out by amateurs. But whether the public at large appreciates architects and their training, it is certain that many efforts have been made in this direction. The architectural organization, the architectural books and periodicals illustrate the pains being taken, spontaneously and disconnectedly, at the present day to further the influence of the trained architect.

But an architect can not practise his profession, can not put his training to practical results, unless he secures clients. He must have his opportunity, and his opportunity must come from without. Some one must give him work to do or he can do nothing at all. And here is where the value of public appreciation of

architecture and of architects arises. Movements tending in this direction, even so low down in the educational scale as the primary school, help in establishing the architect's vogue and in broadening the appreciation of architecture.

It is one of the strange features of our civilization that it should be necessary to put forth a claim for architectural appreciation. Most human beings are concerned with buildings, and buildings are essential to most of the necessities and luxuries of modern life. Perhaps the fact that we have always—practically—lived in houses is one reason we are not interested in them. But it is at least certain that, up to the present time, it has been found impossible to create the same interest in building, in houses, in architecture, as can be aroused any day by a six days' bicycle race, a game of football, or the gentlemanly meeting of two gentlemen within a roped enclosure.

Evidently something must be done, and as all great movements begin in a small way, it is possible that the household instruction now beginning in our public schools will develop and expand in such a way that people as a whole will take a more intelligible interest in things pertaining to building than they now do.

And that is all that can be asked. Intelligent interest in building is one of the crying needs of the hour. It matters very little how this interest is excited, whether it be through the kitchen or through artistic embellishment, whether it be through aids to house-keeping or the science of political economy; whether it be through learning to keep clean or through the application of practical philanthropy; whether it be through the study of the tenement or from the contemplation of the palaces of the rich. The great point is not how we get it, but to get it and get it quickly.

Indifferent as we may be to architecture, we can not escape its influence. It is an ever present factor in civilization. The tendency of the day is for greater comforts and conveniences in the dwelling houses. These are being added to and developed not only because of the popular demand, but because our architects are better equipped to give them than the architects of any previous period. Grant that the architects throw in their increased skill and taste in design—that is their own personal contribution to the modern advance of architecture.

The dwelling house is the basis of all architectural progress. It is the common meeting ground of the architect and the people. Here the skill of the one and the desires of the other meet in sympathy and in union, and it is here that the client first learns the real value of the real architect—the helpful man of affairs, at once practical and artistic, useful and suggestive, helpful and inventive. The architect may aspire to build more pretentious structures, he may look with envious eyes upon those more important architectural periods in which great monuments were erected, vast churches built, sumptuous palaces reared. He may be jealous of his modern contemporary who may catch some of the great similar prizes which still come to the fortunate architect of the present day. But if he builds a good, clean, good looking house, if he fits it out with all the resources of modern art and science, if he properly and suitably adorns it, he will have done something to advance architecture in his own time, and perhaps further it in the time to come.

But it is not given to every one to come in personal contact with the architect or to know of him as an element in civilization. Most of us take our houses as we get them from the builder or owner. We like them or dislike them as our training tells us and our wants are answered or unfulfilled. We are satisfied or dissatisfied as our wants are gratified or not. But those who take the architectural problem seriously know there is more than this. It is not sufficient that a house should gratify physical comfort only; it should satisfy some esthetic ideal; and if we do not have this ideal naturally, we must acquire it by study, by training, by education.

The secondary schools provide only the elements of knowledge; they lay the foundations; the superstructure must be built up afterward. We can not hope or look for architectural training in the schools, nor should we do so; but we should look for such basic studies as will serve as the foundation for after effort. Household training can very well serve as the basis for architectural training in a restricted sense of the word, since if people can be brought to realize the value of the house as a house in culture, in life, in health, in happiness, in betterment, a real advance in architectural appreciation will be made, which will be helpful to ourselves and to those who come after us.

And we need to unlearn just as much as we need to learn. We need to know that architecture is not necessarily the erection of costly buildings and great monuments, but that it is a real and living art, embracing most of the practical sciences, concerned with the great problems of human life, serving them, helping them, stimulating them. Architecture recognized as the most human of the arts means the establishment of a great truth.



## TALKS ON ARCHITECTURE

By BARR FERREE.

## MR. H. W. DESMOND ON THE STately HOME IN AMERICA.

Mr. H. W. DESMOND, the editor of the *Architectural Record*, has just published, through D. Appleton & Co., in connection with Mr. Herbert Croly, the well-known writer, a book on *Stately Homes in America*, which is not only sumptuously illustrated, but, which is very much more to the point, is adorned with a text of a peculiarly illuminating quality, in which the great American house—both city and country—is discussed from the standpoint of the causes which produced it. The subject is one of such general interest, and the point of attack is so new, that I lost no time in questioning Mr. Desmond on some of the problems he has treated in his very remarkable book.

Mr. Desmond has enjoyed very unusual advantages in the studies he has made in contemporary American architecture. He has edited his magazine from its foundation, some twelve years since, and the attention

"Yet even the anarchy of meaningless architectural imitation which so long existed can be shown, on closer examination, to contain certain dominant motives and a certain orderly development. No one, I think, can review the history of American domestic architecture as a whole, and even in the most casual manner, without seeing that, in all the varied imitation, the inclination has been to imitate the best available architectural forms. True, we now know much of it to be bad, and very bad, but that is chiefly because we know better; but there is something behind all this badness that is not visible in the actual forms. The endless experimentation was a search after the best in the particular period in which the effort was made, and it failed of good results, partly from a lack of good models and partly from a lack of the broad knowledge which would have prevented many errors unconsciously made.

"It is apparent, moreover, I think, that the wish to be independent reacted on the habit of imitation and resulted in a crude sort of architectural selection. And then the selective motive has operated with so much

admirable qualities of a house consist, but he, fortunately, has the good sense to depend on his architect, and his architect, if he is a well trained man, as many living architects are, can generally be depended on to do the best he can. We have not always achieved high results in the building of our great houses, but it must be at least apparent that, as a whole, the movement is upward and onward. A hundred years hence the rich client will have a much more intelligent idea of architecture, its meaning, its adaptation to domestic and public uses, its expression, its scope, than the rich client of to-day.

"It is not, however, necessary to look so far into the future. The opportunities now offered to American architects to design handsome dwellings are something extraordinary. I would not call present conditions a 'Renaissance,' but it is a movement clear, positive, and real. It extends to city houses as well as to the making of country estates. In the city house it has progressed so far that old houses are being entirely reconstructed on modern lines. At times this reconstruction is both internal and external; at others the



ANGLE-NOOK IN HALL, RESIDENCE OF MATHEW BAIRD, ESQ., AT ARDMORE, PA.—See page 39.

It has given to contemporary work has brought its editor into the closest association with the leading architects of our time and necessitated the utmost familiarity with their buildings. That he is one of our keenest critics, as well as one of our sanest writers, his present volume has permanently established.

"At the present time," said Mr. Desmond, in the beginning of our talk, "American architecture seems to be laying the foundations, of a vigorous native growth. I am free to say that it has spent many years in copying, modifying, reproducing. Our Colonial architecture, which is now so much thought of, and which has so much genuine interest in itself, was simply a copying of contemporary English forms, or at least of such forms as our early American builders were familiar with or could obtain models to copy from. Originality was long in being developed, and did not develop until American architecture had passed through—shall I say a purgatorial sort of existence?—in which everything strange and uncouth was thought of and experimented with. Much of the building of this intermediate period—this American dark ages of the building craft—is now quite rightly looked upon with pitying interest.

facility and freedom that at the present time American architects may be said to be more original imitators than the architects of any other country.

"So far as the greater contemporary residence is concerned—the house that can best be described as a 'stately home'—the elemental fact to be noted is that it is the house of a very rich man. This economic and social condition must be recognized at the outset, or the actual value and lesson of these structures will not be understood. And I will say more than that, for if we do not start with the social and economic conditions of which these dwellings are the outward and visible expression, we will quite fail to understand their meaning or their relationship to the intellectual progress of our country. It is simply impossible to understand the contemporary great residence unless we keep its inhabitants constantly in mind.

"These American home builders have no other qualification to distinction than that they are rich. The great houses have been built by men of great concentration of purpose, of intense and continuous activity and of somewhat exclusive interests. Such a man wants, in his house, something wholly admirable. In many instances he does not know wherein the

exterior is left as it was, and the skill of the architect is lavished on remodeling the interior. Several notable examples of the latter system have been produced in New York in rich and splendid dwellings. And the movement is so pronounced that city houses are no longer built in rows a block long, each house duplicating and repeating its neighbor, but individual designs are produced. If these have not always been happy either in their design or their juxtaposition, it is at least apparent that the idea of individuality the new method suggests has gained firm ground and attained a very considerable popularity.

"As to the country house it is well to distinguish between the villa, which may be designed as a country residence occupied by city people who are not dependent on the products of their estates for their maintenance, and the great country house which, in some respects, approximates the family seat of the English country gentleman, and is the product of leisure as well as of wealth. Mr. George W. Vanderbilt's celebrated estate of 'Biltmore' is the most conspicuous example of the latter group, although the same idea is now frequently found in many parts of

(Continued on page 38.)

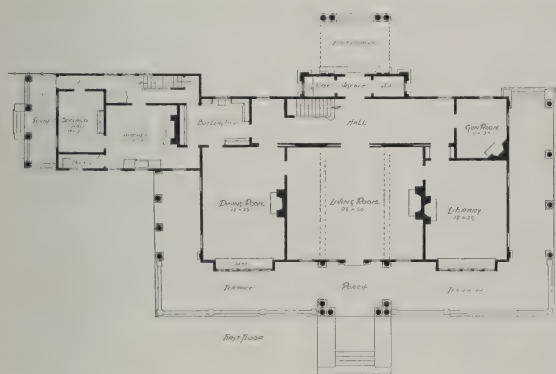




RESIDENCE OF MATHEW BAIRD, ESQ., AT ARDMORE, PA.—See page 39.  
MESSRS. BAILEY & TRUSCOTT, ARCHITECTS.



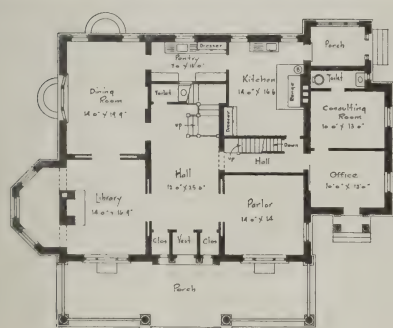




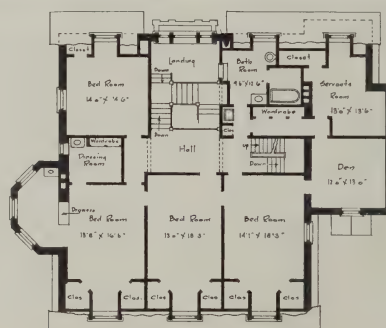
THE WINTER RESIDENCE OF C. OLIVER ISELIN, ESQ., AT AIKEN, S. C.—See page 42.

MESSRS. HOPPIN & KOEN, ARCHITECTS.





FIRST FLOOR PLAN.



SECOND FLOOR PLAN.



A PHYSICIAN'S RESIDENCE AT GERMANTOWN, PA.—See page 39.

MR. LAURENCE VISSCHER BOYD, ARCHITECT.





VENETIAN WELL AND GAZEBO.



GRECIAN POT.



THE FOUNTAIN.



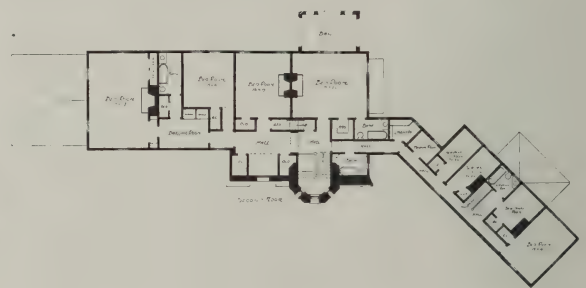
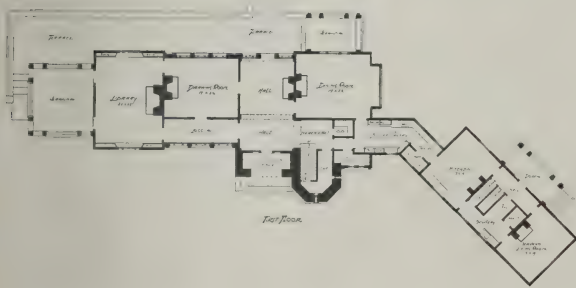
THE TERRACE STEPS.



TERMINALS OF BOWLING GREEN.

THE GARDEN OF "WELD," THE ESTATE OF LARZ ANDERSON, ESQ., BROOKLINE, MASS.—See page 43.  
DESIGNED AND PLANTED BY MR. CHARLES A. PLATT.





THE COUNTRY RESIDENCE OF THOMAS HUNT, ESQ., BERNARDSVILLE, N. J.—See page 41.  
MESSRS. LORD & HEWLETT, ARCHITECTS.





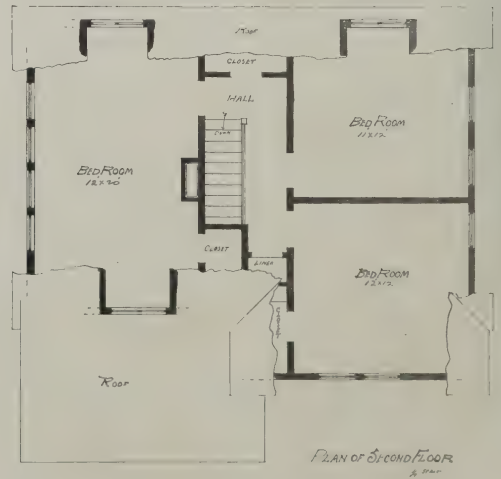
THE DRAWING-ROOM.



THE LIBRARY.

THE COUNTRY RESIDENCE OF THOMAS HUNT, ESQ., BERNARDSVILLE, N. J.—See page 41.  
MESSRS. LORD & HEWLETT, ARCHITECTS.

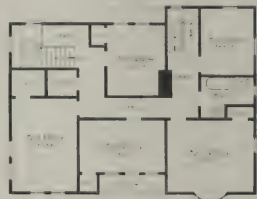
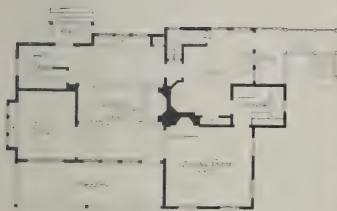




A SUMMER COTTAGE AT MONROE PARK, SOUTH HAVEN, MICH.—See page 41.

MR. A. M. WORTHINGTON, ARCHITECT.





THE HALL.



AN INEXPENSIVE SUMMER HOME AT PROUT'S NECK, MAINE.—See page 40.

MR. JOHN CALVIN STEVENS, ARCHITECT.





RESIDENCE AT WOODMERE, L. I.—See page 40.

MESSRS. ROSSITER & WRIGHT, ARCHITECTS.





LIVING-ROOM.



DINING-ROOM.



THE HALL.

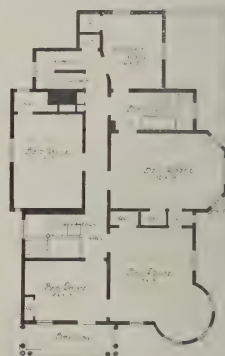
RESIDENCE AT WOODMERE, L. I.—See page 40.

MESSRS. ROSSITER & WRIGHT, ARCHITECTS.





DINING-ROOM.



Second Floor



LIVING-ROOM.

A RESIDENCE IN FLATBUSH, BROOKLYN, N. Y.—See page 39.

MESSRS. BARBER & KLUTZ, ARCHITECTS.





RESIDENCE OF F. F. ROZZELLS, ESQ., AT HYDE PARK, KANSAS CITY, MO.—See page 42.

MESSRS. SHEPARD & FARRAR, ARCHITECTS.





A RUSTIC GATEWAY.



A RUSTIC SUMMER HOUSE.



A RUSTIC TEA HOUSE.



A RUSTIC STAIRWAY AND SETTLE.  
GARDEN RUSTIC WORK.—See page 40.



### MR. H. W. DESMOND ON THE STATELY HOME IN AMERICA.

(Concluded from page 25.)

the East. 'Biltmore' was not built with regard to the owner's convenience of access or its relationship to a great city, as is the case with most villas; but it is the home of a man amply able to build as he wished to build, and who has created an all-around country place at the particular spot which particularly interested him.

"The majority of our large private dwellings are either modified early Renaissance château or modified Italian 'palatial' villas. They are types of that sort of semi-public domestic architecture which modern conditions have hitherto favored in this country. In their original home they were magnificent, spectacular, impressive, and rather impersonal. They are styles that have appealed to our wealthy Americans and have given them a fitting setting for the display of their wealth. I do not mean to say that these styles are the best suited to reproduction and modification for American uses. Personally I favor the Jacobean residence as the best model for our American country houses, although as yet it has not been much used.

"For the present, at least, it is the architect who must be trusted in the building of our stately homes. Nearly everything they possess of interest is due to his skill; but more and more owners are awakening to their individual responsibility, and when this awakening becomes sufficiently cultured, a still greater advance will be made in this type of building than has yet been realized."

### RESIDENCE OF MATHEW BAIRD, ESQ., AT ARDMORE, PA.

The illustrations pages 25, 26, and cover present the residence of Mathew Baird, Esq., at Ardmore, Pa. The style is English half-timber. The first story is constructed of rock-faced Holmesburg granite, with the porch walls and chimneys of the same, the latter being topped out with molded red terra cotta chimney pots. The second and third stories are of half-timber work, which is of a heavy character, the uprights being grooved to receive the plaster, and the horizontal timbers are beveled and dripped at the bottom to prevent the water from running down the walls. The spaces between the beams are filled in with stucco, and the pebble-dashing is the natural color of the pebbles, a cream white. The effect of the gray stone, the half-timber work, and the red chimney pots against the background of green woods presents a harmonious result.

The interior details are principally Elizabethan. The vestibule has a tiled floor, and the wainscoting is carried to the ceiling, which is also paneled. The hall is trimmed with oak, and it is finished in the Elizabethan tone. It has a paneled wainscoting, which is also carried from the floor to the ceiling, which is also heavily beamed and paneled. The ingle nook contains a fireplace of Indiana limestone, with paneled seats extending around the same. The staircase is of handsome design. The winding stairway in the octagonal stone tower in the rear leads to a grille room in the basement. The reception-room and library are trimmed with mahogany, and both have paneled wainscoting to the height of four feet. The separation of the two rooms is made by an archway supported on massive columns, with Ionic capitals. The reception-room has an ornamental ceiling of plaster in geometrical design, and an open fireplace, with the facings and a hearth of Pavonazza marble, and a mantel carved and of handsome design. The library has bookcases built in, which extend around the entire room.

The tea-room is a dainty little apartment treated in ivory white. The dining-room is trimmed with dark Flemish oak, as is also the morning-room, and both have a paneled wainscoting. The fireplace in the dining-room has a Flemish green tile facings and hearth,

and mantel of Flemish oak. The kitchen and its dependencies are trimmed with North Carolina pine, and each is furnished with all the best modern conveniences. The second floor is trimmed with white pine, treated with white china gloss. It contains four bedrooms, a morning-room, sewing-room, linen closet, and three bathrooms, with cork floors, tiled wainscoting, porcelain fixtures, and exposed nickel-plated plumbing. The bedrooms have ornamental plaster cornices and tiled fireplaces. This floor also contains the servant quarters, consisting of two single bedrooms and one double bedroom, and bathroom. The third floor contains two guest rooms and a billiard-room, with arch ceiling and a spacious fireplace, the entrance to which is just at the head of the stairs in the large open hall. There are also a bathroom and a trunk room on this floor. The cellar contains the heating apparatus, etc. Messrs. Bailey & Truscott, architects, 421 Chestnut Street, Philadelphia, Pa.

### A RESIDENCE IN FLATBUSH, BROOKLYN, N. Y.

The residence of Mr. Clarence E. Spayd, at 82 Lenox Road, Flatbush, Brooklyn, N. Y., illustrated on page 36, was built by Albert Janson, of Bay Ridge, Brooklyn. The underpinning is pitch-face ashlar bluestone with vertical and horizontal joints. The superstructure is of wood, and the entire framework is covered with pine sheathing nailed diagonally, over which the best quality of parchment building paper was carefully

dark green burlap below the plate rail and a floral tapestry of soft colors above the china rack to the cornice near the ceiling. A leaded glass transom over a triple window adorns one end of this spacious room, while a china closet extending from the floor to the cornice has been sunk into the butler's pantry, leaving the front on a line with the dining-room wall. From opposite sides of one end of this room doors open out on the front veranda and to the dining piazza at the rear.

The library, in Flemish quartered oak, is reached from the dining-room and also from the reception-hall. The room contains great, wide bookcases on every side built in, those next to the outside wall being under leaded glass windows. At one end of the library is a large mantel and open fireplace of dark red brick, made by the Philadelphia and Boston Fire-brick Co. It contains a wrought-iron basket for burning coal, and under it is an ash dump, by means of which all the ashes are dropped into the brick ash-pit in the cellar. A rich Turkish red tapestry of oriental design makes this one of the coziest rooms of the house. Sliding doors on the first floor make it possible to throw the reception-hall, drawing-room, dining-room, and library into one. The floors throughout are double, and the top, or finished floors, are of hardwood of pretty design. The butler's pantry has a porcelain sink, refrigerator built in, as well as the usual closets, drawers, etc. The kitchen has closets

gas and coal ranges, with copper hot-water boiler, porcelain sink, store-pantry, and pot-closet.

On the second floor is a large hall communicating with all rooms and the rear stairway. There are five bedrooms, each provided with large, well fitted up closets, while in the rear of the house is a large linen closet. The bathroom is finished in ivory white, with exposed nickel plumbing and the usual fixtures. A low-down tank Douglas siphon jet closet is one of the features that does away with noisy bathrooms. The tiled walls, with Holland scenes in delft blue, give the bathroom a pleasing appearance.

The third floor contains the servants' quarters, trunk room, and bathroom. A clothes chute, with openings on each floor, extends from the third floor to the laundry in the cellar. The cemented cellar contains the laundry, cold storage room, servants' toilet, heating plant, coal bins, and ash pit. A Thatcher sectional vapor and steam boiler was installed by John Murchison, Brooklyn, N. Y., and the heating plant is equipped with a Minneapolis electric heat regulator, by means of which absolute uniformity of temperature is maintained in every part of the house, regardless of any change that may occur in the weather on the outside. The house was plastered with elastic wood pulp plaster. Electric bells, burglar alarms, speaking tube, and telephone systems have been installed. A dining piazza off from the dining-room and kitchen is screened in, and it is one of the many practical novelties of the house. Over this piazza is a roofless balcony for sunning and airing clothing. A rear stairway extends from the cellar to the third floor. Messrs. Barber & Klutz, architects, Knoxville, Tenn.

### A PHYSICIAN'S RESIDENCE AT GERMANTOWN, PA.

The physician's residence which is illustrated on page 28 has been built for Dr. Schumann, at Germantown, Pa. The underpinning is constructed of long, flat, local stone, laid with rock-faces and pointed with wide, flat pointing. The remainder of the building is constructed of Sayre & Fisher red brick laid up in Flemish bond with wide five-eighth inch mortar joints, light buff in color, and raked out with iron. The steps at side entrance and part of the trimmings are of white marble, while the remainder of the trimmings are painted white. The entrance doors, with enriched pediment over, are some of the exterior fea-



MRS. MACKAY'S BATHROOM.—See page 39.

tacked. The second story and gables are covered with red cedar shingles dipped and brush coated with Samuel Cabot's creosote stain of a very dark green color. The same stain, but of a light mossy green, was used on the shingles for the roof. A cream white was used for all trimmings. Dimensions: Front, 34 ft. 6 in.; side, 50 ft., exclusive of the 8 ft. 6 in. piazza. Height of ceilings: Cellar, 7 ft. 6 in.; first story, 10 ft.; second, 9 ft. 6 in.; third, 8 ft.

The most attractive external features of this house are the extensive verandas and the graceful tower surmounted by an artistic weather vane; while the great expanse of rooms on the first floor impresses one with the air of comfort, quiet, peace and elegance which pervades the interior. Upon entering the house through a vestibule, a pretty vinelike entwined wrought iron grille on the vestibule door commands attention. The ornamental staircase of quartered golden oak rises from the reception-hall of the same finish, and has two landings, a large leaded glass window opening on each. Plain light green burlap covers the walls. To the right is the drawing-room, treated in ivory white and old rose decorations, with a large Colonial mantel. The circular tower feature of this room, with its curved plate glass window seat, and curved radiator under it, makes it one of the choicest in the house. The parlor chamber on the second floor is similarly finished, a lavatory, French plate pier glass, and two daintily leaded glass windows of elliptical shape having been added. To the rear of the drawing-room is the dining-room, in golden quartered oak, with plain



tures. The roofs are covered with green slate. Dimensions: Front, 68 ft.; side, 43 ft., exclusive of piazza. Height of ceilings: Cellar, 8 ft.; first story, 10 ft.; second, 9 ft.; third, 8 ft. 6 in.

The entrance is through a vestibule, with closets on either side, into a hall, which is a central one and is trimmed with quartered oak and is stained a warm Flemish brown, and is finished with a paneled wainscoting 4 ft. 6 in. in height and an ornamental staircase. The parlor is trimmed with mahogany. The library and dining-room are trimmed with quartered oak and finished in a Flemish brown, and each has a paneled wainscoting to the height of 4 ft. 6 in. The library has an open fireplace built of Pompeian brick and is furnished with a mantel of oak. The butler's pantry and kitchen are trimmed with natural yellow pine.

The physician's quarters, consisting of an office and consulting room, are a special feature of this house, and have an outside entrance with a classic porch and a connection with the main house by the rear hall and stairway. These two rooms are trimmed with chestnut, antique finish.

The second story contains a hall trimmed with quartered oak, and four bedrooms and den trimmed with natural chestnut. The bathroom is trimmed with white pine treated with white enamel. The floor is covered with white vitrified tile and wainscoted to the height of five feet with ivory white tiling. This bathroom is furnished with porcelain fixtures and nickelplated plumbing.

The third floor contains the servant quarters and trunk room. Cellar, cemented, contains laundry, hot water heating plant, fuel rooms, etc. Mr. Laurence Visscher Boyd, architect, Harrison Building, Philadelphia, Pa.

#### RESIDENCE AT WOODMERE, LONG ISLAND.

The illustrations shown on pages 34 and 35 present a residence erected at Woodmere, Long Island, by the Woodmere Land Association, of which R. L. Burton, Esq., is the owner. The underpinning is of brick, and the house from the grade to peak is stuccoed and is tinted a deep soft yellow. The trimmings are painted ivory white, and the blinds are painted a dark apple green. The roof lines are graceful, and the entire roof is covered with shingles, which are left to weather finish. The exterior walls are lined with brick, which gives great warmth for winter houses. Dimensions: Front, 96 ft. 6 in.; side, 96 ft. 6 in.; exclusive of porch. Height of ceilings: Cellar, 8 ft.; first story, 9 ft.; second, 9 ft.; third, 8 ft. 6 in.

The hall is trimmed with chestnut, and is stained and finished in a dull soft brown color. The ceiling is beamed, forming squares, and, at the intersection of each square, support is provided by a square column rising from the floor. This hall has a wainscoting to the height of five feet, and a floor of Dutch tile, red in color, and eight inches square. The staircase at the side of the entrance hall is of ornamental character, and beneath it there is a toilet-room. At the end of the hall there is provided a sun parlor, enclosed with glass and heated in winter. A feature of this hall is the small balcony with seat, which is thrown into the living-room, as a study of the plan will show. The living-room, which is on a lower level than the main floor, is trimmed with white pine and is treated with ivory white paint. It has a paneled wainscoting, above which the walls are covered with crimson burlap, and the whole finished with a wooden cornice. The ingle-nook, which is raised one step, has a tiled floor, paneled seats, and a fireplace built of brick, with tiled facings and a mantel of Colonial style. French windows open on to the porch.

The dining-room is treated in an artistic manner and is painted a dull green. The walls are paneled to the height of six feet and are finished with a plate rack; the space above has a painted panel extending around the entire room. The fireplace, built of brick, has a tiled hearth and facings, and a mantel of Colonial style and seats on either side. The butler's pantry, of large dimensions, is furnished with drawers, dressers, cupboards, sink, and closets. This pantry is well ventilated by two windows, which are placed in opposite directions, one from the other. The kitchen, servants' hall, and laundry are trimmed with North Carolina pine, and each is furnished with all the best modern conveniences. The servants' hall provides a recreation place for the servants and has a large closet for the servants' dishes, etc. The servants' porch is also a happy thought.

The second story is trimmed with white pine and is painted ivory white, except the hall, which is finished the same as the first story hall. There are four bedrooms and two bathrooms in the main part of the house, and four servant bedrooms and bath in the ex-

terior part of the house over the kitchen. Every inch of space is utilized for closets, and they are many in number. Three of the bedrooms have fireplaces, and they are built of brick, laid with facings and a hearth of the same and mantels. There is also a sewing-room, which forms access to the servant quarters. The third floor contains three large bedrooms and a trunk room. The cellar, which is partitioned off into compartments with brick walls, is provided with a heating apparatus, fuel rooms, etc. Messrs. Rossiter & Wright, architects, 95 Liberty Street, New York City, N. Y.

The interior throughout is trimmed with cypress, and the principal rooms in the first story are finished in Flemish brown. The living-room has a paneled seat, with a unique little bookcase at one side, and a beamed ceiling; the woodwork, which is stained a Flemish brown, harmonizes nicely with the rough plastered walls, which are tinted in a deep yellow tone. The rough brick fireplace is an attractive feature of this room. The staircase hall is well located, and contains an ornamental stairway. The den has a bay window with a paneled seat placed in the same. The dining-room has an open fireplace built of brick, with the facings and a hearth of the same, and a mantel-shelf. The kitchen and its dependencies are fitted up complete with all the necessary fittings, etc.

The second floor contains five bedrooms provided with large closets, and a bathroom furnished with porcelain fixtures and exposed nickelplated plumbing. The third floor contains the servant quarters and a trunk room. The cellar has a laundry and fuel room.

Cost, \$3,200 complete. Mr. John Calvin Stevens, architect, Oxford Building, Portland, Maine.

#### GARDEN RUSTIC WORK.

RUSTIC work has real interest in garden making, and, when properly enviroined, is often very effective and sometimes extremely beautiful. It falls of high artistic value because it undertakes to represent buildings and structures which have no counterpart in nature, but it is interesting and good when the combinations made of it have structural form and are pleasing and happy in expression.

Four illustrations of the appropriate use of rustic work are shown in the illustrations on page 38. The rustic gateway is from the garden of C. L. Pyne, Esq., New Rochelle, N. Y.; the stairway and settle are in the garden of O. D. Munn, Esq., Llewellyn Park, Orange, N. J.—an extremely happy, though modest use of this informal garden material; the tea house is from the garden of Captain Steele, South Orange, N. J.; and the summer house is from the grounds of C. C. Philip, Esq., Glen Ridge, N. J.



TURKISH SMOKING-ROOM OF A. A. ANDERSON, ESQ.

terior part of the house over the kitchen. Every inch of space is utilized for closets, and they are many in number. Three of the bedrooms have fireplaces, and they are built of brick, laid with facings and a hearth of the same and mantels. There is also a sewing-room, which forms access to the servant quarters. The third floor contains three large bedrooms and a trunk room. The cellar, which is partitioned off into compartments with brick walls, is provided with a heating apparatus, fuel rooms, etc. Messrs. Rossiter & Wright, architects, 95 Liberty Street, New York City, N. Y.

#### AN INEXPENSIVE SUMMER HOME AT PROUT'S NECK, MAINE.

The inexpensive summer home which is illustrated in this issue on page 33 has been recently completed for Mrs. Cheney Bartol, at Prout's Neck, Maine. The building is treated in the half-timber style. The house is erected on cedar posts with stone footings, and the exterior is covered with novelty clapboards, and the whole is painted a dark bottle green. The first story above this clapboarding is covered with narrow matched stuff, which is also painted a dark bottle green. The second and third stories are sheathed, covered with two thicknesses of building paper, and then

#### MRS. MACKAY'S BATHROOM.

The superb mansion of Mr. Clarence H. Mackay, at Roslyn, Long Island, N. Y., was illustrated and described at length in the BUILDING MONTHLY for September, 1903. The additional illustration given on page 39 of the present number will be welcomed by those whose interest was then excited in this splendid house. The bathroom immediately adjoins Mrs. Mackay's bedroom, and is a boudoir-like apartment, shorn of the plain simplicity which characterizes the bathroom of the ordinary house. It is richly and elaborately furnished, the chief feature being the great bath of marble, carved out of a single piece and sunk in the floor. The illustration gives an excellent view of this interesting room.

#### MR. ANDERSON'S SMOKING-ROOM.

The illustration given above affords a pleasant insight into the smoking-room attached to the studio of Mr. A. A. Anderson, in the Bryant Park Studio Building, in New York. This view supplements other views of Mr. Anderson's studio published in the BUILDING MONTHLY for October, 1902.





## The Household

### WINTER WINDOW CURTAINS.

A DAILY paper gives some useful hints on new material for heavy or winter window curtains. Chenille in soft tones of blue, green, and maroon, shaded from the darkest to the palest tints, is a material in which lovely hangings can be bought, if one wishes something inexpensive. The design is of oriental character, woven into the fabric. Fancy wool serge with vertical stripes is something new, and has a most pleasing effect. A very attractive wool curtain has a double border and fringe on both sides and bottom. Very effective is brocade in self colors, with raised design, in old rose, old gold, art blue, green, terra cotta, and maroon, fifty inches wide. A new soft-finished Roman satin, specially adapted for art needlework, is the Bagdad cloth in twenty tints, width, fifty inches. Moderate in price and delightful in effect is the Venetian striped tapestry for bedrooms, this being closely approached by a duplex printed reversible tapestry cretonne, which in effect is exactly that of a woven fabric. Numberless cretonnes at all prices are now showing the moiré stripes and the rose trellis. Casement curtain blinds and bris-bise come in for special treatment in materials and designs.

### THE BEDROOM.

THE bedroom, as a contemporary, should be comfortably and cheerfully furnished, though without show or ostentation. The curtains at the windows, which should be large enough to let in plenty of light and air, should be of simple muslin in some dainty design. Matting is the best covering for a bedroom floor if the floor is not of hard wood. If it is, inexpensive Japanese, or, better still, simple, homemade rugs of light material, which can be easily shaken or cleaned, may be used.

Brass or metal bedsteads are by all means the best, because the different parts are so tightly screwed together that there are no crevices where dust or impurities can lodge. The old fashioned snow white counterpane is the prettiest, as well as the most sensible bed covering. It can be laundered easily and as regularly as the housekeeper wishes, and it also has the advantage of being more attractive and inviting to a tired person than a colored coverlet.

It is a mistake to have a very low ceiling in a bedroom, but unnecessary to have a very high one. It should, however, be high enough to admit of thorough ventilation. It is needless to add that growing plants should never be placed in the windows of a bedroom, as the earth and fertilizers often give off malarial germs.

Delicate colors are most suitable in furnishings. One of the prettiest bedrooms imaginable, in a country home, was decorated in cream and yellow. It was papered with a very simple design of yellow pansies, on a cream ground, with a silver line running lengthwise. The bedstead was of white enameled iron, trimmed with brass, and the bureau was an ordinary chest of drawers, repainted and enameled white, with brass drawer handles and oval mirror. Old fashioned chairs and washstand in white, with a pale green screen and lamp of the same color, completed the furniture. The washstand stood in a small alcove, and a portière of Japanese cotton crêpe, with a design in delicate yellow, separated it from the room. Before the bed was a soft rag rug of silk. These artistic furnishings cost only a trifle, in comparison with the average cost of bedroom fittings.

Another pretty bedroom in this same house was papered in delft blue, and furnished in oak, with a few etchings on the walls and a soft rug on the floor. The washstand also stood in an alcove, which had a picturesque little window to let in plenty of light, and a dainty grillwork over the entrance, from which hung blue portières of Japanese cotton crêpe.

### THE WOMAN FURNISHER.

It is hard, remarks a recent writer, to make some women believe that the happy results arrived at by skilled artists and specialists are not so much from the caprice of taste, or the inspiration of the moment, as from an acceptance of and adhesion to certain definite laws and knowledge of styles. It is easy enough to admire a beautiful salon or a snug and cozy sitting-room, but unless one does so intelligently the result, in so far as it influences our own homes, is practically nil. And, after all, one of the most charming studies it is possible to conceive is that of the beautifying of the rooms we live in.

Without sticking strictly to "style," the dominant note of the room should be clear, and there should exist a homogeneity between the decorations and furniture.

### THE COUNTRY RESIDENCE OF THOMAS HUNT, ESQ., AT BERNARDSVILLE, N. J.

ON pages 23, 30, and 31 will be found illustrations of the country residence of Thomas Hunt, Esq., at Bernardsville, N. J. The building is designed and carried out in the style of the old Normandy farm house architecture, and is a very carefully executed example of that particular type of building adapted to the modern mode of living.

The terrace wall and the tower entrance are built of local rock-faced stone laid with wide joints. The kitchen and servants' yard are enclosed by a stone wall fence of similar construction, the height of which is reduced by the wall planting on the outside. The remainder of the building is plastered. The exterior woodwork and trimmings are of chestnut, and are stained a dark soft brown color. The roof is covered with red tiles.

The first floor throughout is trimmed with chestnut; the doors are of one panel, with oak stiles, and the whole is coated with a water stain and then given a coat of shellac and alcohol with antique effect. This woodwork is treated with a hewn effect. The entrance vestibule has a brick floor laid herring-bone style. The hall has a paneled wall to the ceiling, of chestnut, and the whole is finished with a massive wooden cornice, and the ceiling is beamed. This hall, which is a central one, extends through the house and forms a living-hall, and it contains a fireplace, built of brick, with the facings and a hearth of the same and a massive mantel. The staircase is isolated from the hall proper and is at the right of the entrance, rising in the tower to the second floor. The loggia, forming an entrance to the library, is trimmed the same as hall, and it has a paved floor of 8 x 8 in. square Dutch tile.

The drawing-room has a low wainscoting and a beamed ceiling with the spaces filled in with narrow beaded stuff. The fireplace is built of brick with the facings and a hearth of the same, and a mantel of chaste design. The library has a battened wainscoting to the height of 6 feet, and is finished with a plate rack. The space above is covered with crimson burlap, and the ceiling is beamed. At either end of the room there are book cases built in on either side of a central window, which has a seat under the same. The open fireplace is of handsome design and is carved out of Indiana limestone.

The dining-room has a low wainscoting, a paneled ceiling, a picture window, and an open fireplace with brick facings and hearth and mantel. The butler's pantry, of large dimensions, is provided with drawers, dressers, sinks, etc. The kitchen pantry and store pantry are also well fitted up. The kitchen is provided with a large fireplace with range, and is furnished with all the necessary appointments. The scullery, with ice box, sink, and closet, is also a useful feature. Much attention has been given to the planning of this house, as a study of the plan will show, and the disposition of the servants' quarters has been very carefully considered. The servants' living-room, provided with an open fireplace, and neatly furnished, is a happy thought, and forms a unique addition to the kitchen and its dependencies. The servants' hall and porch and the private stairway leading up to second story, which contains four servants' bedrooms, all separate, and a bathroom, also show the thought which has been given to their apartments.

The second floor is treated with white enamel paint, and it contains four bedrooms, three bathrooms, and a large dressing-room, besides numerous closets. The bathrooms are furnished with tiled floors and wainscoting, and porcelain fixtures and exposed nickelplated plumbing. The third floor contains a trunk room and ample storage. The cellar, cemented, contains the heating apparatus, fuel rooms, laundry, etc. Messrs. Lord and Hewlett, architects, 16 East Twenty-third Street, New York.

### A SUMMER COTTAGE AT MONROE PARK, SOUTH HAVEN, MICH.

THE summer cottage which is illustrated on page 32 has been erected for Mr. W. L. Desnoyer, at Monroe Park, South Haven, Mich. There is no basement or cellar under the house, and it rests on cedar posts. The framework is of dressed 2 in. by 4 in. studs covered on the outside with perpendicular boarding of pine with battened joints, the whole of which is stained a soft brown color. The gables are beamed and the spaces between are covered with rough cast cement plaster. The trimmings are painted white. The roof is covered with shingles of a dull green color. Dimensions: Front, 32 feet; side, 24 ft., exclusive of porch. Height of ceilings: First story, 8 ft. 6 in.; second, 8 ft.

The living-room, 12 ft. by 20 ft., has a large open fireplace built of field stone and a broad window seat. The dining-room is well ventilated and lighted and is provided with a screened porch. The kitchen has a sink, dresser, pantry, etc. The second story contains three good-sized bedrooms furnished with ample closets. Cost, \$825. Mr. A. M. Worthington, architect, South Haven, Mich.



## The Garden

### FLORAL ARRANGEMENT.

It may be said that the art of successfully arranging flowers is one that is born in the lucky possessor, and not an acquired accomplishment. It is true that the eye may be so educated with regard to color that combinations may be made which are altogether harmonious, yet the knack of making a thoroughly pleasing bouquet does not consist in simply putting together colors that harmonize with each other. There is a certain something which is hardly definable, but which must be there in order to achieve success. It is intangible and difficult to define in words, but perhaps the best attempt at a definition would be to call it a natural intuitive taste—one which in some mysterious way makes no mistakes, as the cultivated or acquired taste is apt to do.

It is naturally impossible to lay down any definite instructions as to what must be done to insure success, because conditions vary so very much; but some general advice can be given that the would-be bouquet-maker who is doubtful of her ability in this direction may find useful.

To begin with, as in so many other decorative matters, let simplicity be the keynote. That is to say, try to make the arrangement as natural as possible, and, in order to do this, let object lessons be taken from Nature herself. Study the flowers while they are growing, and try to arrange them in some sort of way similar. For instance, in arranging roses, if the rose bush is studied—especially a wild rose bush—it will be seen that there is no crowding, no formality—everything is simple and natural; therefore should the roses be arranged loosely, and not forced into positions that are unnatural to them. In the same way, in arranging any flowers in vases or bouquets, it should be known how they appear when growing without interference with their natural tendencies, and this knowledge should govern the arrangement. Not that Nature should be copied servilely and exactly—this is neither practicable nor expedient—but the simplicity and grace of the natural growth should be imitated and should be the groundwork of the scheme of arrangement.

The next important feature in bouquet-making is to guard against overcrowding. This is not good for the flowers and invariably destroys the desired effect. And the crowding of several kinds of flowers together, even if their colors harmonize, is almost always disastrous. Each flower has its own individuality, and if many kinds are massed together their individuality is lost, or else the various individualities combat one another. A few flowers satisfactorily used go a long way further toward producing satisfactory results than great masses of blooms packed closely together. Therefore it is quality rather than quantity that is necessary in work of this kind. Although on the whole, as a general rule, it is advisable to use only one kind of flower in a vase, still occasionally two kinds may be used with advantage. For instance, a spray of white clematis used with roses will give a most pleasing effect, because the white of the clematis brings out the color of the roses vividly; but it is itself unobtrusive and serves as a background to the roses without in any way challenging their individuality.

Sweet peas are delightful for bouquets and should never be mixed with other flowers. In arranging a vase of sweet peas for the house, the blooms should be cut with the longest possible stems and bunched lightly in hand as they are cut, but without an effect being tried for. Not more than a dozen clusters should be cut; then they should be dropped into a rather tall, slender vase, preferably of clear glass, or at any rate one of unobtrusive color; the flowers should then be given a little shake, and the blossoms will have arranged themselves far more satisfactorily than could have been done by putting them deliberately together, because they will have now disposed themselves naturally and simply.

The vessel in which the flowers are put has much to do with their effect. Long-stemmed ones of stately habit, like the lily, will be spoiled if put into low vases. Flowers with short stems are always unsatisfactory in anything but low bowls or shallow vases. Color must also be taken into consideration in this connection. A blue china bowl may be pleasing when filled with yellow roses or large marguerites, but if pink roses or purple dahlias are put in it, then the result is a discord. As a general rule, a crystal vase or cut-glass bowl will be found more satisfactory than any colored vessel. Where these are used there will be no clash of color.—Family Herald.





### HOW TO JUDGE ARCHITECTURE.

HOW TO JUDGE ARCHITECTURE: A POPULAR GUIDE TO THE APPRECIATION OF BUILDINGS. By Russell Sturgis. New York: The Baker & Taylor Co. Pp. 221. Price, \$1.50 net.

Mr. Russell Sturgis is not only one of the most voluminous writers on architecture, but one of the most competent. A scholar by nature and by training, his early life was spent in active architectural practice; many years of continuous residence in Europe has rendered him personally familiar with the great monuments of architectural art, old and modern; constant writing, and an intimate acquaintance with artists and architects have given him an unequalled facility in a real understanding of architecture and its expression.

The present book, though brief—it contains but 221 pages—is one of the most brilliant Mr. Sturgis has produced, and one of the most useful and successful of recent architectural publications. It sets out to do what no other writer has tried to do—to make clear why some buildings are better than others, and why some should be admired and others not. The task is not an easy one. Artistic judgment can not be definitely settled by rule of thumb, and yet there are obviously certain fundamental principles to be followed in forming an architectural judgment exactly as such principles must be followed in reaching artistic opinions generally.

Obviously there were two ways in which the subject might be approached—historically and analytically. Mr. Sturgis has chosen the former way, the one perhaps the most natural to a writer saturated, as he is, with the details of architectural history. The method might very well have been open to discussion before the book was written, but having been written, it is plain that no mistake was made, for the book not only establishes the purpose for which it was written, but it is also a very excellent and rapid sketch of the history of architecture. The reader who follows its pages through to the end lays it down with an increased appreciation of architecture, but he has, at the same time, mastered the outlines of architectural history.

This is no small triumph. A brief sketch of the history of architecture is one of the most difficult things to write, and it is even more difficult to write in a way that will hold and interest the reader. Mr. Sturgis does this and more, for his sketch is both interesting and stimulating, and the intelligent reader is likely to turn immediately from his pages to a more extensive treatise, and thus learn more of that wonderful art to which Mr. Sturgis is so devoted, and which comes closer to us, closer in a practical, real living way, than any other art of design.

The object of the book, writes the author, is to help the reader to acquire, little by little, such an independent knowledge of the essential characteristics of good buildings and also such a sense of the possible differences of opinion concerning essentials, that he will always enjoy the sight, the memory, or the study of a noble structure without undue anxiety as to whether he is right or wrong. Rightness is relative: to have a trained observation, knowledge of principles, and a sound judgment as to proprieties of construction and design, is to be able to form your opinions for yourself; and to understand that you come nearer, month by month, to a really complete knowledge of the subject, seeing clearly what is good and the causes of its goodness, and also the not-so-good which is there, inevitably there, as a part of the goodness itself.

These are sensible words and admirably set forth the reason for the making of this book and the grounds on which it appeals to the reader. There is no better or more useful work than helping people to understand architecture. Architectural writing does not always accomplish that; it is too apt to be descriptive or theoretical. If it is descriptive it deals with facts, most of which can be observed in any illustration. If it is theoretical it deals with theories which, likely enough, are chiefly of interest to the person putting them forth. Mr. Sturgis has opened a new field in leaving both of these aspects and treating architectural history from the standpoint of appreciation.

The volume is illustrated with numerous views of notable buildings, admirably selected and well printed. They add materially to its interest, and, in themselves, constitute a fine summary of architectural history. The leading styles—styles that have counted in the progress of art—are passed in swift review, but always with the thought of their esthetic merit. It is a novel point of view, admirably put forth.

### RESIDENCE OF F. F. ROZZELLS, ESQ., AT HYDE PARK, KANSAS CITY, MO.

THE residence which is illustrated on page 37 has been recently erected for F. F. Rozzells, Esq., at Hyde Park, Kansas City, Mo. The first story and chimneys and the columns to the piazzas are built of rock-faced gray stone. The second and third stories are of wood and the exterior is covered with shingles and stained a deep soft brown color, while the trimmings are painted white. The roof is covered with shingles and is stained moss green. Dimensions: Front, 52 ft.; side, 50 ft., exclusive of piazza. Height of ceilings: Cellar, 7 ft.; first story, 10 ft.; second, 9 ft.; third, 8 ft. 6 in.

The hall is a central one, with a side hall leading to a side entrance. These halls are trimmed with quartered oak and have paneled wainscotings and ceiling beams. The vestibule is formed with columns rising from the floor to the ceiling. The staircase is an attractive one with columns, also rising from floor to ceiling. The lavatory is conveniently located beneath the stairway. The den, which is designed in the old Dutch style, is trimmed with quartered oak, and it has a paneled wall and plain heavy beams on the ceiling. The woodwork is finished in a dark brown. The rough plastered walls are tinted a deep red and the ceiling an orange color. There is a quaint bookcase built in, paneled seat, and an open fireplace, furnished with a vitrified brick mantel, the top of which conforms with the paneled wainscoting.

The drawing-room is trimmed with antique oak, and it has an open fireplace with tiled facings and hearth and a mantel. The dining-room is trimmed with a dark fumed oak, and it has a paneled wainscoting and a recessed sideboard built in an artistic manner. The floors of this story are of oak and are highly polished. The butler's pantry is provided with drawers, dressers, closets, and sink. The kitchen and its dependencies are furnished with all the best modern conveniences.

The second story is trimmed with birch, and it contains five bedrooms, with large closets and a bathroom furnished with a tiled floor and wainscoting and porcelain fixtures, with exposed nickelplated plumbing. The third floor contains two servant bedrooms and bath and a trunk room. The basement is subdivided into various rooms for hot water boiler, coal bins, laundry, vegetable cellar, and a man's room. Messrs. Shepard & Farrar, architects, 506 Commerce Building, Kansas City, Mo.

### THE WINTER RESIDENCE OF C. OLIVER ISELIN, ESQ., AT AIKEN, S. C.

THE illustrations shown on page 27 present the winter residence of C. Oliver Iselin, Esq., at Aiken, S. C. The design is treated in the Colonial style. The terrace, with its balustrade, the porches, with their columns of classic character, the windows, with their small lights of plate glass, and the quaint dormer are all good features. The underpinning is built of red brick. The superstructure is covered on the exterior framework with matched sheathing, and then shingles, and the whole is painted white. The roof is also covered with shingles. Dimensions: Front, 130 ft.; side, 43 ft., not including piazza and terrace. Height of ceilings: Cellar, 8 ft.; first story, 11 ft.; second, 9 ft. 6 in.; third, 8 ft. 6 in.

The front entrance opens into a large living-room, while the porte-cochère entrance opens into the main hall. The latter is trimmed with white pine and is treated with white enamel paint. It has a paneled wainscoting and ceiling beams, and an ornamental staircase with mahogany treads and rail. The living-room is trimmed and treated in a similar manner, and has a wainscoting six feet in height and a beamed ceiling and an open fireplace built of brick with Italian marble facings and hearth and a Colonial mantel. The library has a similar fireplace and a window seat. The gun room is conveniently located and it has an open fireplace. The dining-room, of large dimensions, is finished in a buff brown, warm in tone, and it has a wainscoting and beamed ceiling. The butler's pantry is fitted with drawers, dressers, cupboards, sink, etc. The kitchen and its dependencies are fitted up complete with all the best modern conveniences, including a servants' hall, which is quite an important feature of the modern country house.

The second floor is treated with white paint and contains an open hall, seven bedrooms, three bathrooms, besides three servant bedrooms and bath, with a private stairway and hall, which is placed over the kitchen extension. The third floor contains four bedrooms for servants and a trunk room. The cellar, cemented, contains a furnace, laundry, larder, store-room, and fuel rooms. Messrs. Hoppin & Koen, architects, 244 Fifth Avenue, New York.

INTELLIGENT supervision of the house is needful at all times. Mere cleanliness is not sufficient; the house must be known and understood as a house to give its best uses to those who live in it.



### THE TELESCOPIC AERIAL LADDER.

FOR life-saving purposes, says the weekly Scientific American, there is nothing to compare with the new telescopic aerial ladders, which are operated by means of compressed air. When it is desired to effect a rescue of a person on the roof or on one of the upper floors of a blazing building, the pneumatic ladder is shot into the air to a point just opposite where the imperiled person is standing, the endangered individual steps on to the top round, and the ladder as suddenly collapses, the tubes telescoping gradually but rapidly, and conveying the rescued person to a point near the ground.

The average telescopic aerial ladder is operated under an air pressure of 300 pounds to the square inch, the air tank being located in the center of the truck carrying the ladder. On many ladders there is provided an auxiliary tank with air under 100 pounds pressure, which is used to supply power for swinging the ladder from one side of the street to the other, so that buildings on both sides of a thoroughfare may be served without serious delay. The truck carrying the ladder weighs about two tons, the heavy construction having been introduced in order to obviate any possibility of overbalancing. Ladders of this pattern of 85 feet extension have been raised to their full height in 25 seconds. Inasmuch as the apparatus is strong enough to carry a dozen men, it is possible to conduct rescuing operations with great rapidity.

### THE FIREPROOFING OF WOOD.

AFTER an exhaustive series of experiments with a wide range of compounds, it is stated in an exchange that Joseph L. Ferrell has found in sulphate of aluminum a compound that appears to answer all the practical requirements. It has the additional feature, of no slight importance in its bearing upon the fireproofing effect, that when strongly heated it leaves an infusible and nonconducting residue to cover and protect the cellular structure throughout the wood. It absolutely prevents the propagation not only of flame throughout the wood, but even of a glow, because of its unconducting and unalterable character. Sulphate of aluminum, in concentrated solution, is far more efficient than an alum solution; as if the alkaline sulphate of the alum simply detracted from the power of the aluminum sulphate in the matter of making wood fire resistant.

Sulphate or phosphate of ammonia acts to make wood fire resistant by rapidly liberating ammonia gas, which has the effect of checking the flames on the surface of the wood. The fiercer the flame which plays against such wood, the more rapid the liberation and exhaustion of the protecting vapor. There is no residual protective substance remaining in the wood, and the carbonization of the fiber proceeds apace. On the other hand, so soon as the sulphate of aluminum of the superficial layer of the wood impregnated with this chemical is decomposed by the heat of a flame a deposit of aluminum is formed, the nonconducting properties of which make it a barrier against the propagation of the carbonizing effect and protect the interior in a very notable degree.

### SPONTANEOUS COMBUSTION.

DAMP lampblack, pointed out Mr. James H. L. Coon, insurance inspector, Watertown, Mass., in an address before the New England Foundrymen's Association, will ignite from the sun's rays. The same can be said of cotton waste moist with lard or other animal oil. Lampblack and a little oil or water will, under certain conditions, ignite spontaneously. Nitric acid and charcoal create spontaneous combustion. New printers' ink on paper when in contact with a hot steam pipe will ignite quickly. Boiled linseed oil and turpentine in equal parts on cotton or linen rags or cotton waste will ignite in a few hours under a mild heat, and will in time create enough heat to ignite spontaneously. Bituminous coal should not be stored where it will come in contact with wooden partitions or columns, or against warm boiler settings or steam pipes. This coal should not be very deep if it is to be kept on storage for a long period. If piled in the basement of a building it should be shallow and free from moisture, and under good ventilation. That liable to absorb moisture should be burned first. If on fire, a small quantity of water showered on this kind of coal cokes it upon the top and retards any great supply of water reaching the fire, thus necessitating the overhauling of the pile.

Iron chips, filings, or turnings should not be stored in a shop in wooden boxes.





## BRICK, STONE, AND TILE.

TILE MADE OF VITRIFIED CLAY. F. U. Brinlain, Covington, Ky. December 8.....	746,448
TILE LLOORING. L. L. Silvers, Barberton, Ohio. December 15.....	86,676
ROOFING TILE. C. Schindler, Rockwell City, Iowa. December 15.....	746,747
BUILDING BRICK OF TILE. J. Soss, New York, N. Y. December 22.....	747,495

## CARPENTRY.

PLATE OR BLOCK FOR PARQUET FLOORS. C. Amendt, Oppenheim, Germany. December 8.....	745,554
WEATHER STRIP FOR DOORS. W. F. Veber, Bowling Green, Ohio. December 8.....	746,416
WEATHER STRIP. W. Zimmermann, Duren, Germany. December 15.....	746,910
WINDOW. A. C. Hendricks, Waynesboro, Pa. December 15.....	747,173

## CONSTRUCTION.

COLUMN SUPPORT. T. L. Beaufait, Grossepointe, Mich. December 1.....	745,315
SHEETING. D. B. McBean, New York, N. Y. December 1.....	745,453
PARTITION AND FURRING. W. N. Wight, New York, N. Y. December 1.....	745,547
METALLIC STRUCTURE. W. H. Clark, Washington, D. C. December 1.....	745,570
ROLLING SHUTTER. P. Ebner, Columbus, Ohio. December 8.....	746,307
STRUCTURAL ELEMENT AND METHOD OF PRODUCING SAME. O. A. Turner, Los Angeles, Cal. December 8.....	746,411
METALLIC WINDOW FRAME AND SASH. J. Eber, St. Louis, Mo. December 8.....	746,477
CONSTRUCTION OF ROOFS AND WALLS OF BUILDINGS. J. W. Richmond, Los Angeles, Cal. December 15.....	747,120
FOUNDATION. E. C. Hodges, Farmer City, Ill. December 22.....	747,125
METAL COLUMN. J. Lutz, Pittsburg, Pa. December 22.....	747,411
METHOD OF BUILDING CONSTRUCTION. L. N. Blydenburgh, New Haven, Conn. December 22.....	747,579
FLOOR CONSTRUCTION. C. A. Balph, Pittsburg, Pa. December 29.....	748,150
CONCRETE BUILDING WALL. A. I. Dexter, Birmingham, Ala. December 29.....	748,352

## ELEVATORS.

SAFETY CUSHION FOR ELEVATORS. W. D. Baker, Rogers, Ark. December 22.....	747,357
ELEVATOR. N. Hiss, New York, N. Y. December 22.....	747,707
ELEVATOR SIGNALING APPARATUS. J. McLean, New York, N. Y. December 29.....	748,408, 748,409
ELEVATOR. And. T. E. Winslow, Chicago, Ill. December 29.....	748,449

## FIREPROOFING AND FIRE EXTINGUISHMENT.

FIREPROOF BUILDING. J. Sculley, Minneapolis, Minn. December 1.....	745,915
FIREPROOF CONSTRUCTION. E. K. Kibben, St. Louis, Mo. December 8.....	746,345
FIREPROOF STAIRWAY. F. A. Winslow, Chicago, Ill. December 22.....	747,825

## HARDWARE.

DOOR STRIP. A. Sponin, Olivia, Minn. December 1.....	745,396
DOOR OR WINDOW CLOSING DEVICE. G. A. Chadcock, Liverpool, England. December 1.....	745,783
SASH FASTENER. J. F. McLean, Yorkville, S. C. December 1.....	745,888
SPRING HINGE. E. Bommer, New York, N. Y. December 1.....	746,272
HINGE. J. Soss, New York, N. Y. December 1.....	746,398
WINDOW FASTENER. E. A. Klages, Crafton, Pa. December 15.....	746,809
SASH FASTENER. Vance and Knapp, Winnetka, Ill. December 15.....	746,764
PIVOT HINGE OR METHOD FOR WINDOWS. J. A. Kinsely, Chicago, Ill. December 15.....	747,189
SPRING HINGE. H. Tscherning, Freeport, Ill. December 15.....	747,276
WINDOW LOCK. E. Fisher, Chicago, Ill. December 22.....	747,403
SASH FASTENER. A. F. W. Lorle, Dunedin, New Zealand. December 22.....	747,618, 747,617, 747,618, 747,619
STORM SASH FASTENER. J. Diehl, Sheboygan, Wis. December 22.....	747,866
LOCK. J. Mills, Marietta, Ohio. December 29.....	748,202
LOCK. W. K. Kaye, Le Roy, England. December 29.....	748,285
DOOR KNOB. W. Munro, New Britain, Conn. December 29.....	748,404

## HEATING AND VENTILATION.

ELECTROTHERMIC VENTILATOR. F. De Mase, Brussels, Belgium. December 1.....	745,507
HEAT INDICATOR. J. F. Smith, Scotland, S. D. December 1.....	745,740
FIREPLACE. D. C. Simonds, Trenton, Tenn. December 8.....	746,182
RADIATOR. J. Spear, Winnetka, Ill. December 15.....	747,254
VENTILATOR. T. Hough, London, England. December 22.....	747,427
VENTILATOR. G. E. Stevens, Auburn, Maine. December 22.....	747,658
VENTILATOR. W. J. Schumacher, Chicago, Ill. December 29.....	748,315

## MISCELLANEOUS.

PAINTING AND CLEANING APPARATUS. E. Veillard, Montreal, Canada. December 1.....	745,406
PORTABLE SCAFFOLDING. J. B. and R. Murray, Minneapolis, Minn. December 22.....	747,564

## PLUMBING.

SIPHON WATER CLOSET. W. G. Newton, New Haven, Conn. December 1.....	745,651
FLUSHING APPARATUS FOR WATER CLOSETS. W. U. Grubb, Philadelphia, Pa. December 1.....	745,823
SINK AND SINK STRAINER. J. Koslosky, New York, N. Y. December 1.....	745,963
BASIN OR BATH FITTING. J. J. W. W. Chicago, Ill. December 8.....	746,419
FAUCET. Totham and Merwin, New Haven, Conn. December 8.....	746,762
JOINT FOR WATER PIPES OF THE LIKE. C. Guyer, Murry, Pa. December 15.....	746,828
VENTILATING INDICATOR FOR WATER CLOSETS. A. Drouillard, Windsor, Canada. December 22.....	747,389
VALVE MECHANISM FOR WATER CLOSETS. M. C. Grolson, Cincinnati, Ohio. December 22.....	747,413
FLUSHING TANK. F. H. Lindenbergh, Columbus, Ohio. December 22.....	747,447
FAUCET. G. A. Soderlund, Somerville, Mass. December 29.....	748,115
FLUSHING VALVE FOR SANITARY APPARATUS. N. Curtis, Boston, Mass. December 29.....	748,265
FLOOR JOINT FOR WATER CLOSETS. J. S. S. New York, N. Y. December 29.....	748,418

## TOOLS.

PLANE. Carleton and Trask, New Britain, Conn. December 8.....	746,385
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## THE GARDEN OF "WELD," THE ESTATE OF LARZ ANDERSON, ESQ., BROOKLINE, MASS.

THE garden of "Weld," at Brookline, Mass., is a portion of the estate of Larz Anderson, Esq. It was designed and planted by Mr. Charles A. Platt, who has long enjoyed a special familiarity with Italian gardens, and who has, in the present example, created one of the most notable Italian gardens in this country.

The architectural framework of the garden of "Weld" is confined to the bounding enclosure. It is nearly square in plan, with a built-up enclosure of terrace and balustrades on the sides, and a pergola at the end furthest from the house. In the space before the pergola is the fountain, a very beautiful old piece of work. It stands at one end of the mall, which runs through the center. On either side are spaces with flower beds arranged symmetrically, while tubs with bay trees are placed at intervals.

The mall and flower beds are at the lowest level of the garden. Toward the outer edge is a higher walk, paved with brick, and the highest level is reached in the bounding walk, which is on a level with the gazebos. There are two of these, placed at the corners nearest the house. The formal garden is shut off from the house by a grove of trees. A beautiful bowling green stretches between the grove and the house. The latter stands on the apex of the high hill on which the estate is situated. Some glimpses into this garden are shown in the illustrations on page 29.



## BUILDING CONTRACT—ARCHITECT'S CERTIFICATE.

A BUILDING contract, which required that payments should be made only on architect's certificates, also provided that the architect should be the superintendent of the building, with power to reject any work not in accordance with the specifications, and that such architect should be the arbiter between the parties. Held, that where the architect, during the progress of the work, inspected the materials and work, and approved the same, and constantly made directions for the correction of errors, which were complied with, and thereafter the owner, architect, and contractor agreed to the acceptance of the building, with the exception of certain alterations, the requirement of the architect's final certificate, as a condition to the contractor's right to sue for his final payment, was waived. *Vanderhoof vs. Shell*, 72 Pac. Rep. (Or.) 126.

## INEVITABLE ACCIDENT—TERMINATION OF CONTRACT.

WHERE defendant contracted to construct an annex to a schoolhouse, and the specifications provided that such annex should be so constructed that when the building was completed it would be continuous, and the west wall of the old building was to be the east wall of the annex, with arched openings through the same to connect the old and new parts, so as to make continuous halls the full length of the two buildings, and the only access to the second floor of the annex was to be the stairway in the old building, the contract contained an implied condition that the old building should continue to exist until full performance of the work thereunder, and hence a destruction of the old building by inevitable accident before the annex was completed terminated the contract. *Krause et al. vs. Board of School Trustees of School Town of Crothersville*, 66 N. E. Rep. (Ind.) 1010.

## CLAIM OF SUBCONTRACTOR LIEN.

UNDER a building contract providing that sufficient might be withheld from the amount due the contractor to indemnify the owner from claims filed by subcontractors, the filing of such claims did not defeat the plaintiff's right to recover the balance. *Perry vs. Levenson et al.*, 81 N. Y. Supp. 587.

## ENFORCING LIEN—JURY TRIAL.

CODE Civ. Proc. Sec. 3412, providing that, if a lienor fails to establish a valid lien in an action, he may nevertheless recover judgment for the sum due him, is not unconstitutional in depriving the parties of a jury trial, for it may be construed as either entitling the parties, when a personal judgment is desired, to have issues framed and sent to a jury under sections 970 and 974, or to authorize entrance of an interlocutory judgment declaring the lien invalid, and ordering the issues under the contract sent to the jury. *Hawkins et al. vs. Mapes-Reeves Const. Co. et al.*, 81 N. Y. Supp. 794.



## PUMPS AND ENGINES.

THE suburban resident, the florist, the farmer, and all who in any manner have to deal with the difficulty of supplying water to their establishments are fast realizing the need of a small pumping engine that is simple, reliable, and easily operated. Along with the development of the gasoline engine comes the perfection of the gasoline pumping engine, of which the accompanying illustration shows one manufactured by the Standard Pump and Engine Company. This symmetrical, compact, and durable machine may be placed in the basement of houses, in barns, or any like convenient place. It is one and one-half horse power, and the engine and pump are combined on one base, making it self-contained and of small compass, which permits it being placed in a very small space, and also avoids the loss of power incident to belt-driven pumps. Being self-contained, it may be placed upon a truck together with a tank containing solution for STANDARD PUMPING ENGINE.



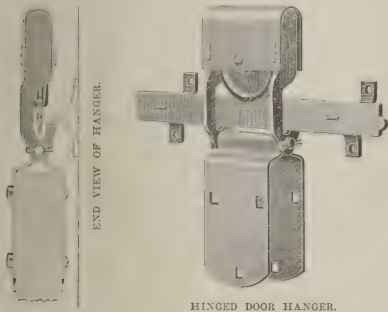
spraying fruit trees. With this combination several nozzles may be used at the same time. The engine here shown has a capacity of 1,200 gallons per hour, and is so constructed that it will pump against a constant high pressure without injury to any of the parts or heating of the journals. By using one of these engines an independent water works system may be had at a moderate cost, without using a large tank and tower. Water may be pumped to a small tank for daily use. For sprinkling and other work the hose can be connected directly to the pipe line, the large air chamber insuring a steady stream, and the automatic safety valve making it impossible to injure the machine or burst the pipes from excessive pressure. The machine is made to use gasoline, natural or artificial gas, and has sufficient power to force water over long distances and to very high elevations. For lawn and greenhouse spraying it will pump direct into the water main, furnishing a constant high pressure. In addition to its usefulness as a pumping machine the pump gearing may be disengaged and the engine used for power purposes. If gasoline is used, the tank may be placed outside of the building, underground, and when connected in this manner there is not more than half a pint of gasoline in the building at any time, thereby enabling users to comply with the requirements of insurance. The three and one-half and five horse power pumping engines have capacities of 3,500 and 6,000 gallons per hour respectively. They are designed for railway pumping stations, large greenhouses, and nurseries, for spraying and irrigating, for stock farms, summer resorts, suburban allotments, and residences. Compact and self-contained, they are unequalled for mine and quarry pumping, where space is limited and frequent changes of location are sometimes necessary. Simple and efficient, they adapt themselves to any use where water or other liquids are to be handled at a small expense of time and fuel. These machines are also very efficient as fire service pumps, and, as they can be started instantly at any time, they have a marked superiority over the steam fire pump. It is understood that the company can supply interchangeable water cylinders with these machines to furnish larger quantities of water at lower elevations, or smaller quantities at greater elevations. The proportions are ample throughout; the quality of material and workmanship is first class in every detail. The equipment is complete, as it includes foundation bolts, batteries, and spark coil in a special box, with switch and wires attached, gas pulsometer and graduated dial inlet valve for gas engines, or gasoline tanks with gasoline pump and reservoir for gasoline engines, together with muffler, wrenches, and oil cans. A spark retarding device enables one man to start these engines without the use of a priming or starting pump. For railway pumping stations the company furnishes an automatic stopping and draining device, which will stop and drain the pump when the tanks are filled. These engines are made on the four cylinder principle, the crank shaft receiving an impulse every second revolution. The entire cylinder and valve chambers are water-jacketed in a manner avoiding any joint between the water-jacket chamber and the cylinder. The



firm also makes a stationary deep-well pumping jack that may be attached to any deep well pump, windmill rod, or working head, and designed to meet the requirements of those localities where deep wells are necessary. In general we state that the engines make no noise, no smoke, and no trouble, and may be used for driving fans, corn shellers, dynamos, churns, feed grinders, presses, freezers, wood saws, workshops, etc. The address is Cleveland, Ohio.

#### HINGED DOOR HANGER.

Among the new devices coming to our notice that are calculated to be of interest to builders is a type of barn door hanger we describe and illustrate in this article. It is just put on the market by the Lane Brothers Company, of Poughkeepsie, N. Y. The hanger is of the hinge joint "tied on the rail" variety, and permits some side flexibility at the top of the door, which will compensate for slight warping or binding of the latter. It has a detachable door piece, which has proved a great convenience in the case of hangers having a guard back of the rail. By reference to the illustrations, it will be noted that the wheel is not only covered, as that term is generally understood, but is protected at the ends as well. The hanger frame is made entirely of steel, and is exceptionally strong, as the supporting strains are nearly direct tension. In suspending the load it is carried but a very short distance from the center around the rail, as is shown particularly by the end view, and as the metal is wide in section there is scarcely any tendency to straighten out at this point, while the hinged pin itself, on which the clevis is supported, passes through holes in the lower part of the main frame. The clevis is very wide, permitting three bolt holes, that are not in line, and it is supported the whole width on the hinge pin; but it is not prevented from rising independently of the latter as far as the underside of the track, thereby jamming a door, so that if one edge jumps up it can not possibly strain the hanger. With this hanger the bottom of the door is



not only free to swing outwardly on the pivot, but it may be raised to a horizontal position or even higher if it is desired to use the door as an awning. The wheels are fitted with the regular Lane roller bearings, having a separate bushing for the rollers to run on. The improved pattern of hinged door hanger for 1904 is manufactured in three sizes. Each number hanger must be used with size rail as indicated in the manufacturers' directions. No. 93 hangers and 1¼ hange hanger rail are interchangeable with other hinge hangers and rails on the market. Added to the marked advantages mentioned, it may be stated that the hanger can not get off the track, and that it is stronger than any track it can be used on, and altogether it may be claimed that it is as well made and as promising as any hardware specialty ever introduced by the company.

#### PORTABLE WOODEN HOUSES.

A SPECIAL article in Uhlund's Technische Rundschau describes the Brummer system of portable wooden houses, of which many specimens were used for restaurants, etc., in the Dusseldorf Exhibition. The principle adopted consists in making panels one meter wide and three or four meters long, as desired, out of dry, impregnated wood, with an air space as insulator. The panels are fixed together by swallow-tailed edging or dovetailing. The pitch-pine sleeper frames and the roof frame are in parts, and must be fixed wind and water tight. The roof panels are delivered all ready prepared with roofing felt. The parts can be adapted to a great variety of houses without skill, and the inner parts, doors, and windows can be changed without interfering with the structure.

#### A NEW AUTOMATIC HACK SAW.

A NEW automatic hack saw, one designed to cut up bars or pipes into pieces of any uniform length required, has just been placed upon the market by Montgomery & Company, No. 105 Fulton Street, New

York, N. Y. By this apparatus bars of any material, of any shape, and of any size up to four inches in diameter can be cut up. As shown in the accompanying illustration, the bar is fed to the machine over a number of roller supports, and pushed forward until it touches the stop shown in the front of the machine. Setting this stop determines the size of the

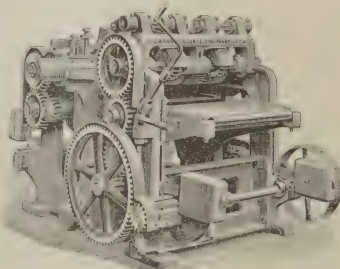


A NEW AUTOMATIC HACK SAW.

pieces into which the bar or pipe is to be cut up. On starting the machine, the work is firmly gripped by the vise, and the saw begins to cut like an ordinary hack saw. The counterbalance weight shown at the right alters its position automatically to compensate for the blunting of the saw through use. On the completion of a cut the saw rises, the vise opens, the work feeds forward the needed length, the vise closes, the saw falls, and a fresh cut is commenced. When the bar is entirely cut up, a bell, shown on the upper part of the right hand leg, rings continuously until attended to by the operator. When only one cut is to be made, the machine can be set to ring at the completion of each cut. The bell also rings in the same way when a saw blade breaks. The blades are very cheap and can be replaced in a few moments.

#### SINGLE CYLINDER PLANER.

In introducing this machine to the notice of our readers it may be stated that it is ahead of any of its class ever made by its manufacturers, J. A. Fay & Egan Company, of 209-299 West Front Street, Cincinnati, Ohio. The makers have been eminently successful in building standard planing apparatus for trade at home and abroad, and all advantages secured from a long experience are embodied in the construction of this new No. 29. This substantial machine, for use of woodworkers in general, has a very solid frame, and works 30 inches wide, 8 inches thick. It has a powerful feed with a broken feed roll made in two or four sections, and each section is centergaged. Two or more pieces of uneven thickness can thus be planed at the same time, and each piece receives an even pressure, as the roll gives any variations desired. It is easily operated, and all the different adjustments can be quickly and conveniently made, and it gives a fine, smooth finish to the lumber, whether it be soft



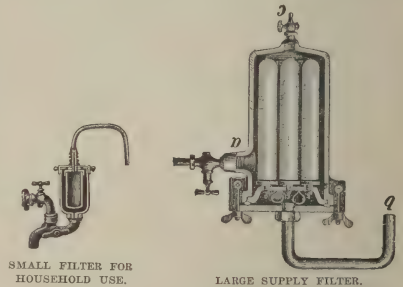
SINGLE CYLINDER PLANER.

or hard. The feed rolls have sectional weights, and the feeding out roll raises and lowers parallel. The table also easily raises and lowers, and the feed is driven from the cylinder and is always under instant control of the operator. The illustration inserted here gives a clear presentation of this new planer.

#### FILTRATION OF DRINKING WATER.

GERMS in impure drinking water transmit diseases by absorption into the human system. These micro-organisms can be kept out in two ways, namely, by boiling, or by filtering the water. In the case of drinking water, however, boiling renders the water

unpalatable, or, at least, less pleasing to the taste than unboiled water, and filtration is, therefore, the most satisfactory method of purification. In order theoretically and practically to fill all requirements, a filter must furnish a medium which offers the least resistance to the flow of water, and still prevents the passage of the minute animalcula which convey disease. A filtering medium that is scientifically constructed to thus maximize the power of resistance to noxious, injurious, and deadly germs is used in the apparatus manufactured by August Giese & Son, and called the "Berkefeld Filter." Of course, very much of the excellent result obtained by the makers is to be credited to the fortunate choice of material used, and known as infusorial earth, which consists of innumerable minute fossil skeletons, that form a mass with microscopic pores, sufficiently large to allow a satisfactory movement of water, but small enough to prevent the passage of even the smallest germs conveying disease. This earth is formed into a hollow cylinder of a filter, shown in the smaller of the two illustrations. The water enters through the upper cock on the left and into the filter at the bottom, passes through the microscopic pores of the cup, then up and out through the spout at the top. When necessary, this cup can be easily removed and cleaned by brushing or washing. The lower cock shown on the left is a two-way cock, by means of which the stream of water may be sent up through the filter, or, when unfiltered water is desired, down through the outlet at the left. By means of this device one gallon of the purest drinking water, free from all solid atoms and disease germs, can be filtered in four minutes. The



other illustration is that of a Berkefeld large supply filter, a very rapid germ-proof filter, which gives a maximum quantity at minimum cost. This economic and reliable apparatus is especially useful for manufacturers, hotels, clubs, and institutions requiring large quantities of distilled water. The address of the Berkefeld Filter Company is No. 4 Cedar Street, New York, N. Y.

#### WINDOW APPARATUS FOR MILLS, ETC.

THE new device known as the Lovell apparatus for operating sashes and shutters has recently been placed on the market by the G. Drouvé Company, of Bridgeport, Conn. The ready adoption of this window mechanism by mill, factory, and foundry owners, railway companies, etc., has been so pronounced that more than sixty thousand feet has been sold in the past year—a statistic that indicates the device is destined to revolutionize this line of industry. With this apparatus, a line of sash five hundred feet long can be safely, conveniently, and quickly operated from one station if desired. It makes no difference as to the kind of sash to be opened, the apparatus working equally well with the sash hung from the top, pivoted at the sides or top or bottom, or hinged at the bottom. Furthermore, it can be applied to sliding or ordinary lifting windows. As the operating station for an entire building is, unless otherwise ordered, always planted on the wall at the end or side of the structure, in case of fire or panic the windows can be rapidly closed while the occupants are leaving. This is a practical feature of such great importance that it immediately appeals to the owners of large plants, railway companies, etc. Owners or controllers of factories, mills, and the like have long been anxious for the development of a system which would give perfect ventilation and permit of faultless operation readily and quickly. The apparatus is strong, durable, and practical, besides subserving the comfort and health of those compelled to work indoors. The G. Drouvé Company can erect the apparatus in large number in any part of the country. A very important part of the business of this large and finely equipped plant is the manufacturing of skylights. These lights furnish the desired combination of lightness, strength, and durability. They are made up in many shapes and sizes, and suited to all sorts of roofs. The light gathering and distributing power is admirable. Send for a catalogue containing information on sheet metal architectural work, etc.



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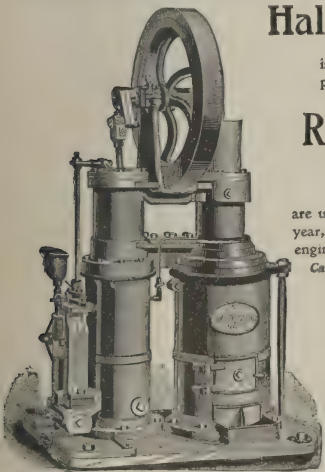
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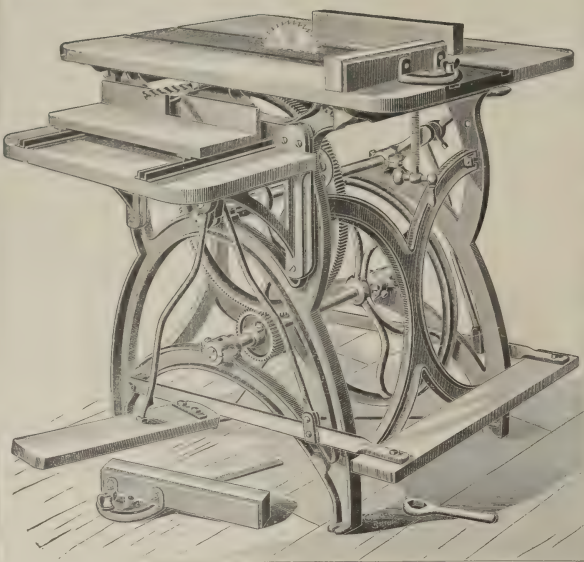
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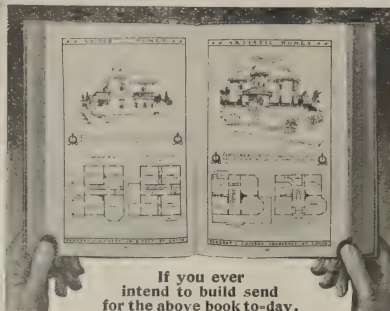
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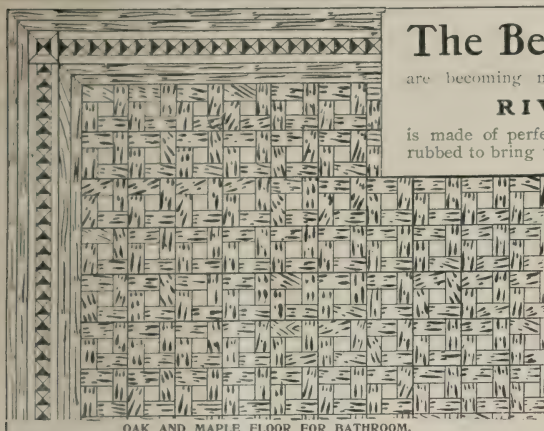
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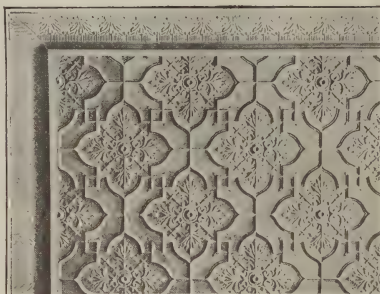
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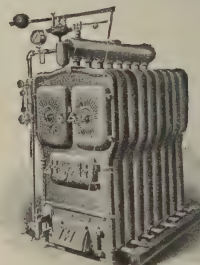
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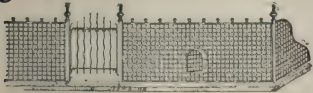
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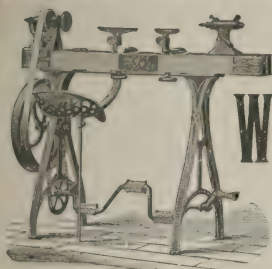


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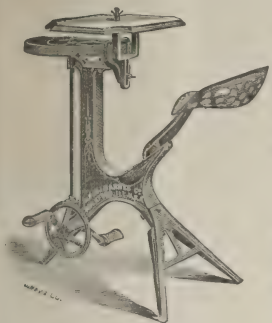
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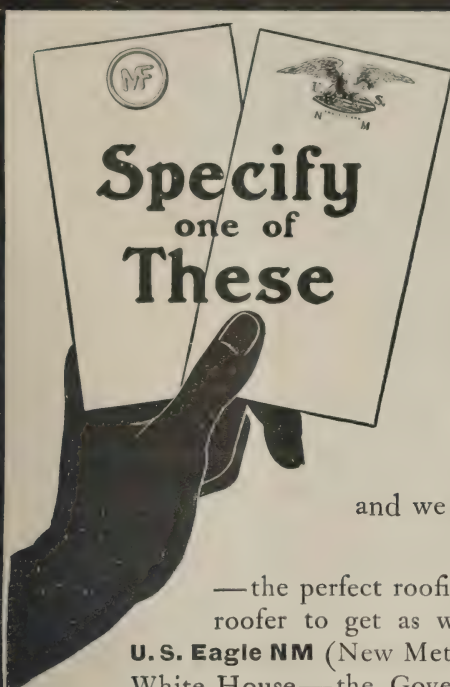
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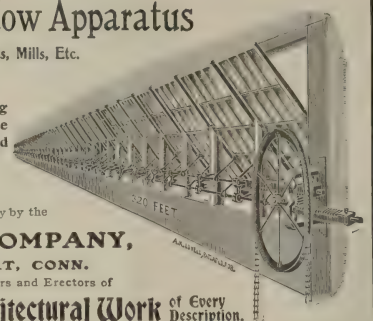
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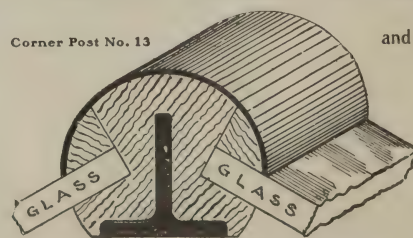
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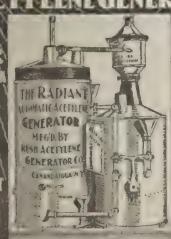
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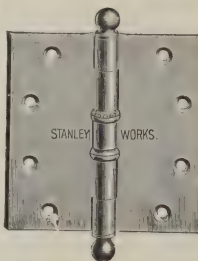
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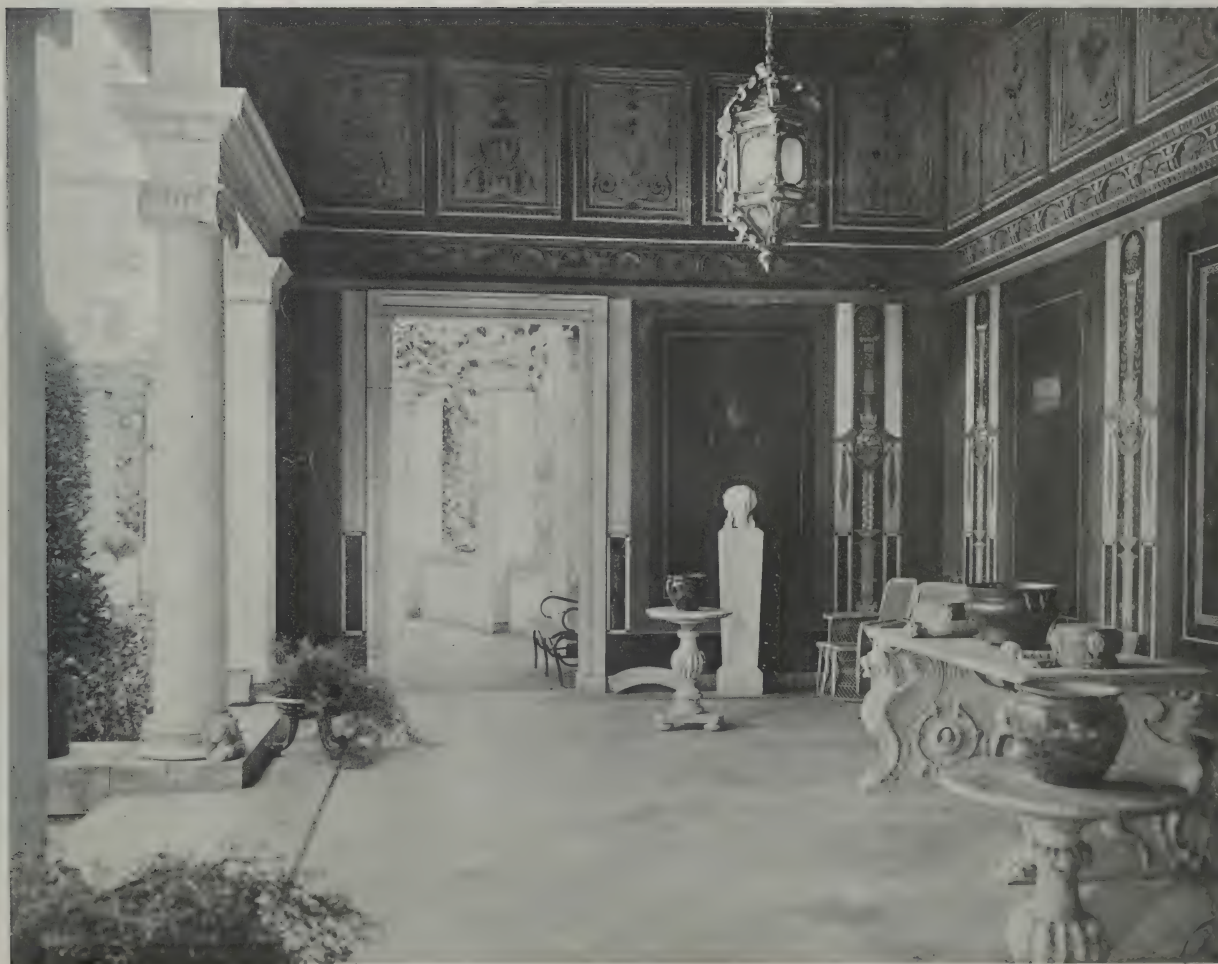
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PORCH OF CASINO.

FAULKNER FARMS, THE ESTATE OF MRS. CHARLES F. SPRAGUE, BROOKLINE, MASS.—See page 47.  
MESSRS. LITTLE & BROWN, ARCHITECTS.



# SCIENTIFIC AMERICAN BUILDING MONTHLY

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\*. The engravings presented in this issue are made from photographs taken specially for the SCIENTIFIC AMERICAN BUILDING MONTHLY.

## MONTHLY COMMENT.

THE localization of city buildings—of buildings used by the municipality for municipal purposes, is a feature which has not yet made much progress in this country. Our courts are located in one structure; our police stations in another; our fire departments in a third; the schools are necessarily placed apart. But there seems no good reason why the first three structures should not be grouped together; if not in one building, then in a group of buildings, all in touch with one another, and forming a civic center.

The advantages of administration would doubtless be the first element in bringing about such a coordination of civic buildings, but the civic advantages—the value of localizing public structures, of having, in each district, ward, or division of a city all the public structures at one point—a civic center—would be very great. It would be a very great help in civic progress if the people as a whole would be brought to realize that their immediate government had an outward and visible sign, an outward expression, a definite habitat, observed and known of all men, readily approached and conveniently located. And if such a center were given fine architectural form, as it should, a useful lesson in public art would also be given.

AN almost revolutionary experiment in municipal beautification has been undertaken in Mexico, says the Evening Post, where the people traditionally put off everything till to-morrow. The mayor of the city in question, as if it were the most natural thing in the world, has issued an order that all the houses in the place shall forthwith be painted. Of course, the first aspect of the situation to appeal to a lay reader is its effect on the labor market. The place will certainly become a Mecca for journeyman house and sign painters. One month is allowed for the refurbishing

of the whole community. Under union rules, each man may paint only a certain number of houses a month, and it is a simple calculation to divide the number of houses by this maximum monthly output. This done, the authorities will doubtless count the painters as they come in, and shut the gate after the necessary number are inside. Has the mayor stopped to think what the conditions will be after the month is over? Every house will be spick and span. There will not be a single job of painting to be done, except on newly built houses, for three or four years at least. Can a painter live through that period on the savings of his profitable work this month? Normally, in a well-regulated town, a certain percentage of the houses need painting each year, just as a certain proportion of United States Senators need reelection. In this case, after a few years of equal but gradually diminishing freshness of color, all the houses will again, presumably, need painting at the same time, and so on, *ad infinitum*. No painter will ever again earn moderate but regular wages in that town. Periods of entire stagnation will alternate with periods of hysterical activity. This is the result from the most practical point of view. Considering the thing esthetically, it is a bad precedent for any man to transform a weather-beaten, and possibly picturesque and quaint old town into something staring, prismatic, new, and smelling of turpentine.

THE time for the opening of the St. Louis Exposition is close at hand, and the most remarkable of such undertakings will be in full view. Popular interest does not appear, as yet, to have been keenly excited over this exhibition. The advance advertising, as the preliminary notices are called, has not been well done. There is a very general impression that it will be a St. Louis affair first, and anything else after. That St. Louis is far from being an ideal location for a great international exhibition is undoubtedly true; but stupendous efforts have been put forth to make the coming show a success, and a very brilliant success, and there is no doubt but it will be everything its projectors have hoped it would be. The St. Louis Exposition will be a very great architectural and artistic display, and will be the greatest object lesson in festival architecture this country has yet had.

## THE INTEREST OF HOUSES.

EVERYTHING that promotes a thought, excites comment, arouses discussion, or affects the mind of mankind in any way possesses interest. This interest is not always of equal degree; various objects, as various circumstances, arouse varying degrees of interest; every human being is not interested in fine scenery or in good art, or in good taste, or in good houses; but all educated people know of these things, and quite a number are more or less deeply interested in them.

Houses—using the phrase as a generic one to include buildings of all sorts—should be of the utmost possible interest to every intelligent person. Houses are the life-long companions and containers of the human race. Companionship is one of the most human of qualities; we are ever with our houses, for without them we would perish of cold in the winter, or perhaps languish in a burning sun in the summer.

The house, which originated in man's need for shelter, has become one of the most varied and useful and ornamental aids to civilization. The house determines the occupation of one's life; it is either passed within a house or without it, a law so true and definite that the sequence of day and night is no more certain.

Have not houses, then, a rightful interest, and a very pronounced one? That interest is of a most varied and often of the most delightful character. This, indeed, is the chief element in a house's interest, this interest of delight. A house should give joy by its form, its material, its construction, its color, its detail; every part of it should be delightful and speak of pleasure and peace; of restfulness, if it be a restful building; of gaiety, if it be a structure put to frivolous uses; of solemnity, if it be a solemn edifice; of sacred things, if it be put to holy uses. But over and above all these special characteristics, the house should give joy by its general aspect, exactly as every element which determines that aspect—and some of these qualities have just been rehearsed—should have the same quality, must have it, indeed, or the sum total of the parts will fail drearily.

Then, again, the interest of houses is apparent in their character. A house, a right kind of a house, has character—personal, individual, definite character—exactly as a man has—or should have. All houses do not express this quality in the same way; even houses built and designed by the same architect have been known to exhibit a character quite distinct from each other, as though they were not the product of the same mind. But a house should at least have an honest, straightforward air, if it can not be beautiful or decked out with the frills of high art. The latter, it is well to note, seldom add to the interest of a house, because

they are generally artificial, and the artificial in a house is exactly as entertaining and as interesting as it is in a human being, no more and not otherwise.

It is a most mistaken notion that the interest of a house increases in proportion to its elaborateness. The architects are not indisposed to support this view, since every one who has had to do with building is aware of the definite fact that the more elaborate the house, the more it costs; and most of those who know this much know also that increased cost means an increased commission for the architect. More brain matter is expended, no doubt, in the making of most elaborate designs, more wear and tear on the architectural conscience; but it is paid for, every cent; much of it is well paid for; and mental activity that is amply compensated for has about as great a reward as it is possible to have.

And this is just the point at which the public, the great public, unlearned in matters of architecture, goes to pieces. It seems impossible to believe that a vast house, built at great cost, designed in a most elaborate style, decorated, it may be imagined, with gables and dormers, with pinnacles and columns, with pediments and cartouches, may be of the smallest art interest—for art interest is, of course, the chief end of building—and not worthy of an honest man's momentary consideration. Yet a simple little structure next to the great fancy house may have a real interest, a true merit, that its more grandiose neighbor can not begin to touch.

Why is it? It is because of the indefinable qualities which tend to success in building. Good taste can not be defined, art itself is difficult of definition, excellence in building can not always be set forth by rule and law; but the finer qualities, the personal touch, the innate knowing of how to do a thing and then doing it, the expression, the method—all count in bringing about a result which yards of ornament, tons of sculpture, heaps of detail, masses of substance can not emulate or so much as give the hint of.

Houses are of interest when they have character, when they have expression, when they display taste in their design, when the design is well composed, when the parts are well proportioned and in scale, when the color is good, when there is suitableness in design, when the environment has been consulted in their erection, when they speak of purpose, and when they proclaim on their exteriors that they have been designed by thinking, careful, well-trained men. Questions of cost, of costly material, of costly ornamentation, of elaborate show, of visible splendor for splendor's sake, have nothing to do with the case, and are absolutely beside the point.

Houses take on a new and special interest when the people who live in them take a real and living interest in them. The untidy garden is a sure test of lack of interest in one's immediate surroundings; a house need not seem untidy to proclaim lack of interest in it—that may be more difficult to demonstrate—but it is at least very certain that real, definite, personal interest on the part of the inmates will soon be apparent without, exactly as it is very early indicated within. It may be manifested in a score of ways, but it is sure to be evident, and in a more or less direct manner.

The mere grouping and erection of houses has a special interest. The interest of a barren field is apt to be of a very rudimentary sort. Sow it with seed and produce a crop, and it takes on a new interest which may be real and special, dependent, in most instances, upon the color, form, and extent of the plant grown. Remove it altogether from agricultural purposes, cut streets through it, grade them, plant them with shade trees, build houses on them, and the whole aspect of the landscape is changed. If it has been a barren tract without natural features, the change has been for the better; if it has been full of natural beauty, the change has been for the worst. But the point to remember is the change which has come over the land. People are drawn to it, primarily, of course, because other people have settled there; but the mere building of the houses is given a fresh note of interest.

Or it should. That it does not do so always, there are countless examples to demonstrate; but there is always the possibility of houses improving. As a matter of fact this improvement has now become very definite. Not that every new house is more artistic than its predecessor; such a statement would be grossly untrue—but people are, more and more and every day, awakening to the increased interest of good houses; they have become aware of the financial value of fine houses; they are realizing more and more the merits of good-looking houses; they are beginning to understand that a good house is a good thing, and that it has an interest that bad houses can never have. Every one is not yet interested in houses, interested in them as works of art, as helps to human betterment, as aids to landscape beauties; but more people feel these things than have felt them in the past. Surely the world is moving in architectural matters, even if that movement seems, at times, erratic, perverse, and twisted.



## TALKS WITH ARCHITECTS

BY BARR FERREE.

MR. CHARLES A. PLATT AND THE GARDEN OF FAULKNER FARMS, THE ESTATE OF MRS. CHARLES F. SPRAGUE, BROOKLINE, MASS.

It is a wonderful view that one obtains from the terraces of Faulkner Farms, Mrs. Sprague's beautiful place in Brookline, Mass. It is a view to inspire one—not once, indeed, but many, many times; a view stern and white, yet withal fantastic with the snow of winter; and in summer, alive with, it would truly seem, all the greens that Nature has painted for the delectation of mankind.

There are, of course, many ideal sites in the world, sites which seem ideal once their surpassing beauty has been pointed out; doubtless there are finer situations, more entrancing views, more fascinating scenes than may be observed from the eminence on which the dwelling house of Faulkner Farms has been placed; but the situation is of such rare and unusual beauty,

something quite different from simply photographing the gardens—much intimate personal intercourse with the gardens of Italy, have given him an unusual mastery of the subject.

The designer of an Italian garden needs, perhaps, more than anything else, a thorough appreciation of their wonderful beauty and a penetrating insight into the causes of their splendor. The mind, the thought, must be understood, or the forms—the material, the plants, the shrubs, the trees—will not yield up their entire quota of satisfaction. The readers of Mr. Platt's interesting book on Italian gardens, the art lover familiar with his very fine photographs, must be aware how intimately he has studied these wonderful places, and how thoroughly he has mastered them and their principles.

The problem of creating an Italian garden at Faulkner Farms did not differ, in some respects, from the problem that, in a similar shape, has been presented a number of times in New England. Italian gardens are no longer novelties in America, and even cold, bleak

own personality upon every part of the art work with which he is connected.

I have alluded to Mr. Platt's fine mastery of the Italian garden, and it remains to note, briefly, how he has applied that mastery to the gardens of Faulkner Farms. The estate is a large one, and includes all the paraphernalia of the great country estate. Mr. Platt's work, however, has been solely in relation to the grounds immediately surrounding the house. That, as I have said, was already built before he was called upon to undertake the transformation of the immediate vicinity of the residence.

The general plan is simple. The house is a vast rectangle. A broad drive leads up before one front, where is a great graveled forecourt, that affords ample space for waiting carriages. Beyond it—to one's right as one drives up to the house—is a grove of trees, largely planted by Mr. Platt, and adorned with a fountain at each end. The central path leads up to a beautiful circular temple which stands on a level space on the apex of the hill on which the house is built.



THE POOL BEFORE THE CASINO.—FAULKNER FARMS, THE ESTATE OF MRS. CHARLES F. SPRAGUE, BROOKLINE, MASS.

that it could not but have been a source of special inspiration to the architects who created this beautiful place.

Faulkner Farms, as it is to-day, is the work of several men. The house is an entire rebuilding of an older structure that long occupied this position. Messrs. Little & Brown, the Boston architects, have entirely remade and remodeled it, so that hardly a suggestion of the original structure now remains. It is a stately mansion, generous in dimensions, excellent in scale, and characterized by a quiet sumptuousness quite in keeping with its position as the residence of a great estate, and yet happily devoid of the sometimes gaudy elegance introduced into country houses as large as this one.

The supreme attraction at Faulkner Farms is the garden. This has been entirely due to the skill and taste of Mr. Charles A. Platt, of New York, whose work in landscape design has brought him much fame. Mr. Platt's mastery of the spirit of Italian gardening is, if not complete, at least excelled by none. Much time spent in Italy, much time spent in an intimate study of the best Italian gardens, much time given to photographing them in their most artistic aspects—

New England dares to compete, in its hot, luxurious summer, with the vegetarian splendors of Rome and Florence. There was no element of novelty in the idea, therefore, and some of the conditions were not ideal.

The house had already been built before Mr. Platt was called in and the designing of the gardens begun. A less skilful landscape architect would have found this a well nigh insurmountable drawback. A fundamental canon in landscape work is that the architect and the landscape designer shall work in harmony. For the end and aim of landscape work is harmony, and it is obviously impossible to secure this chief end if the landscape work is clapped on as an afterthought. It is to Mr. Platt's credit that no such suggestion is made by anything at Faulkner Farms. In terraces and retaining walls, in approaches and steps, and in the house itself, the culmination of the whole, he has had to contend with work designed by other minds than his, work intended, perhaps, to be seen in combinations other than those he combined it with. To him, of course, the work lacks that unity that he would have given it had he been called earlier into the matter; but this is no more than the conscientious feeling of the true artist, who naturally wishes to impress his

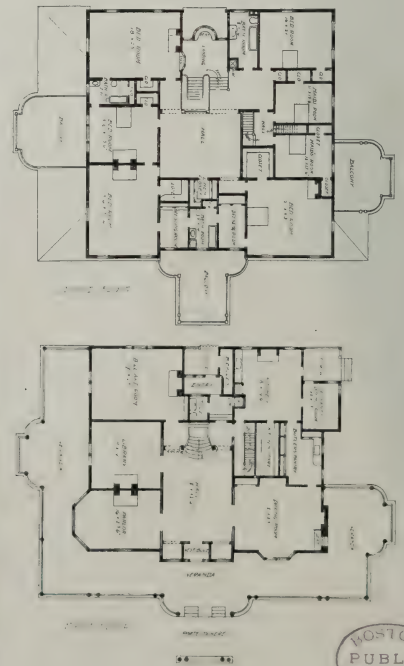
The formal garden, the Italian garden, the garden, is to the right of the house. It is not too large, the total area being about 200 by 113 feet, but it is of ample dimensions, and here Mr. Platt has lavished all the resources of his fine art, and translated the spirit of the Italian garden, as well as its forms, to this fine New England hillside.

At the furthest point from the house, and marking the limits of the garden, is the Casino, a graceful, charming structure, entirely unenclosed on the garden front, and decorated within in the Pompeian style in colors, a novel and effective piece of decoration. Before it is a pool with a fountain, and on either side stretch the columns and piers of the pergola.

The gardenmaster is supreme here. Architecture comes into use only in the boundary enclosure; but it is employed in strong, graceful lines, in well built walls, in admirably proportioned columns, in sturdy piers. The Casino is at once a summer-house and a retreat, and the climax to the garden as a whole. The pool before it brings the charm of water into the garden, a charm so penetrating and so real, that the waterless garden seems barren and incomplete. The whole

(Concluded on page 60.)





A COLONIAL RESIDENCE AT PLAINFIELD, N. J.—See page 62.

MR. E. G. W. DIETRICH, ARCHITECT.

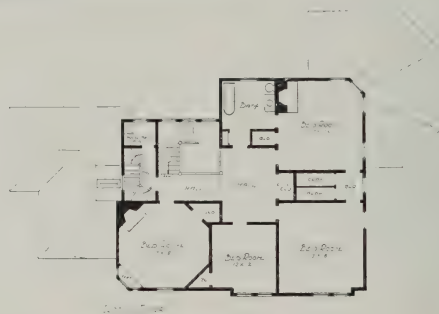




CHATEAU REXSAMER, A MOUNTAIN HOME IN ELIZABETHTOWN, N. Y.—See page 61.

MESSRS. MANN, MacNEILLE & LINDBERG, ARCHITECTS.

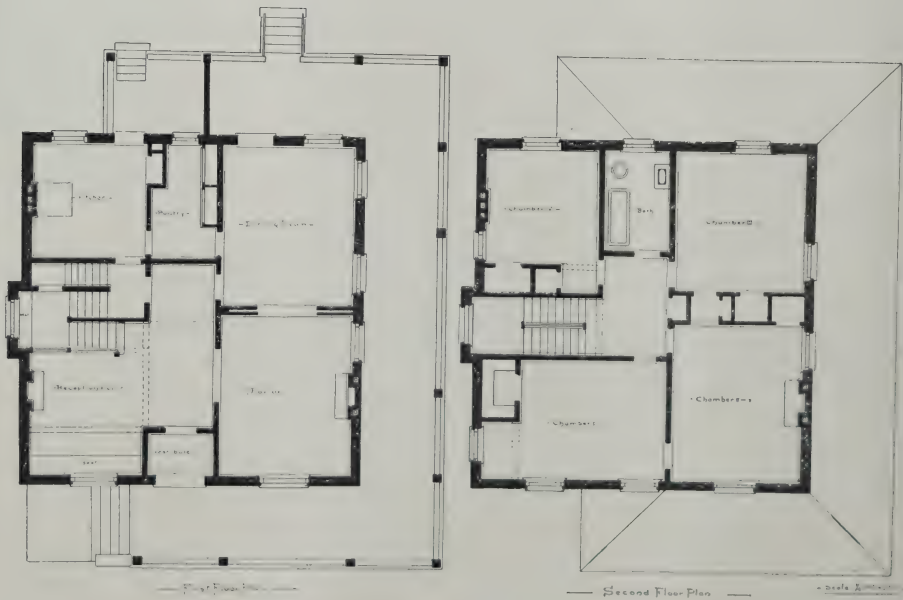




RESIDENCE OF D. W. COOK, ESQ., AT ESSEX FELS, N. J.—See page 60.  
MR. FRANK E. WALLIS, ARCHITECT.







HOUSE IN SOUTH ORANGE.  
JOHN STEVENS, OWNER. CARL REHMAN, ARCHITECT.



RESIDENCE OF JOHN H. STEVENS, ESQ., SOUTH ORANGE, N. J.—See page 62.  
MR. CARL F. REHMAN, ARCHITECT.





FAULKNER FARMS, THE ESTATE OF MRS. CHARLES F. SPRAGUE, BROOKLINE, MASS.—See page 47.  
MESSRS. LITTLE & BROWN, ARCHITECTS; MR. CHARLES A. PLATT, LANDSCAPE ARCHITECT.

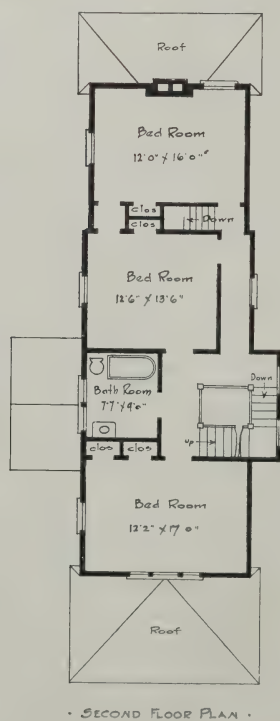
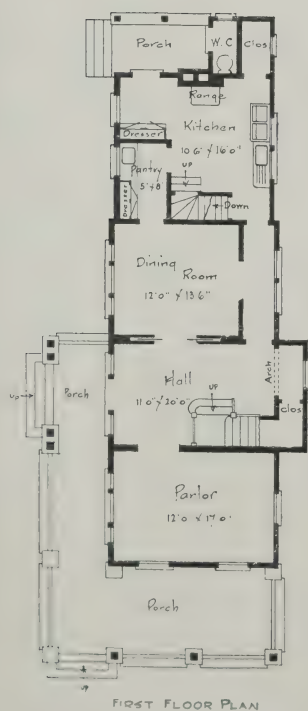




FAULKNER FARMS, THE ESTATE OF MRS. CHARLES F. SPRAGUE, BROOKLINE, MASS.—See page 47.

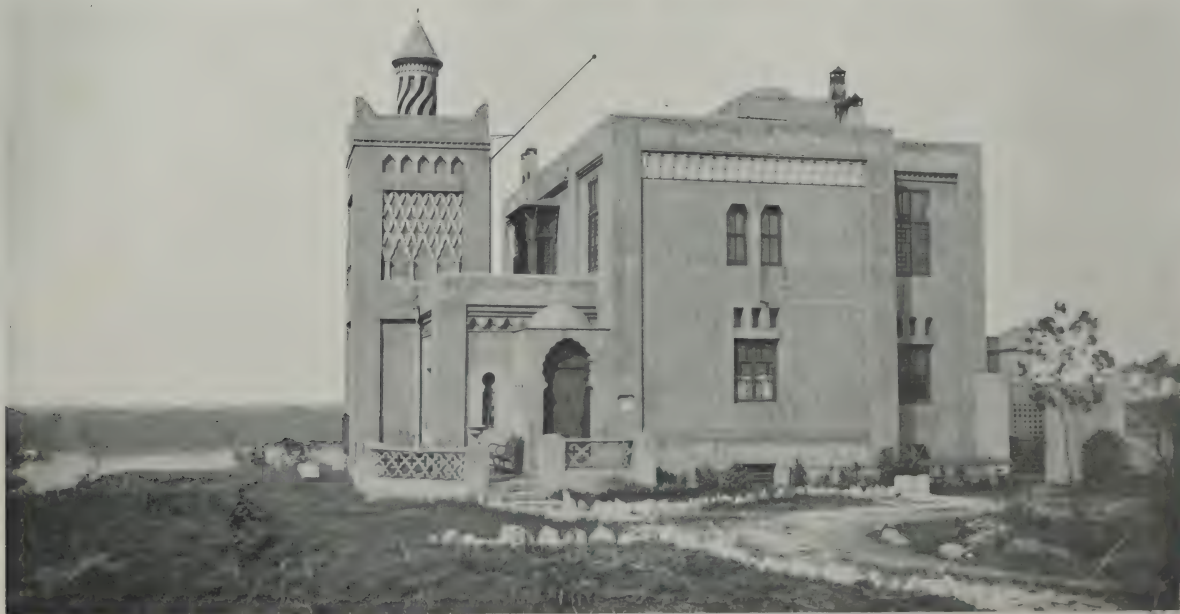
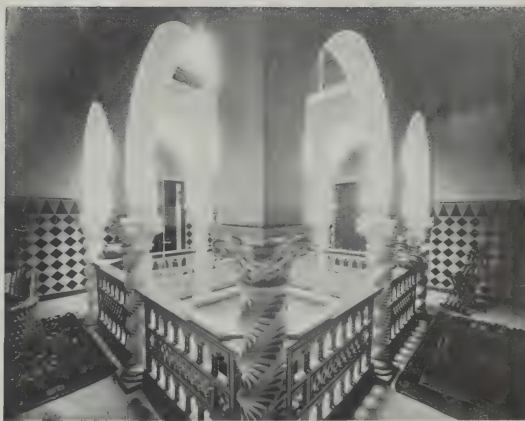
MESSRS. LITTLE & BROWN, ARCHITECTS; MR. CHARLES A. PLATT, LANDSCAPE ARCHITECT.





A HOUSE AT GLENSIDE, PA.—See page 61.  
MR. LAURENCE VISSCHER BOYD, ARCHITECT.





VILLA KATHRINE, QUINCY, ILL.—See page 62.







"ATLANTEAU," RESIDENCE OF FREDERICK L. SAVAGE, ESQ., BAR HARBOR, ME.—See page 60.

MR. FREDERICK L. SAVAGE, ARCHITECT.







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First Floor



"BIRDS' NEST" A SUMMER COTTAGE AT DELANO PARK, CAPE ELIZABETH, ME.—See page 61.

MR. JOHN CALVIN STEVENS, ARCHITECT.

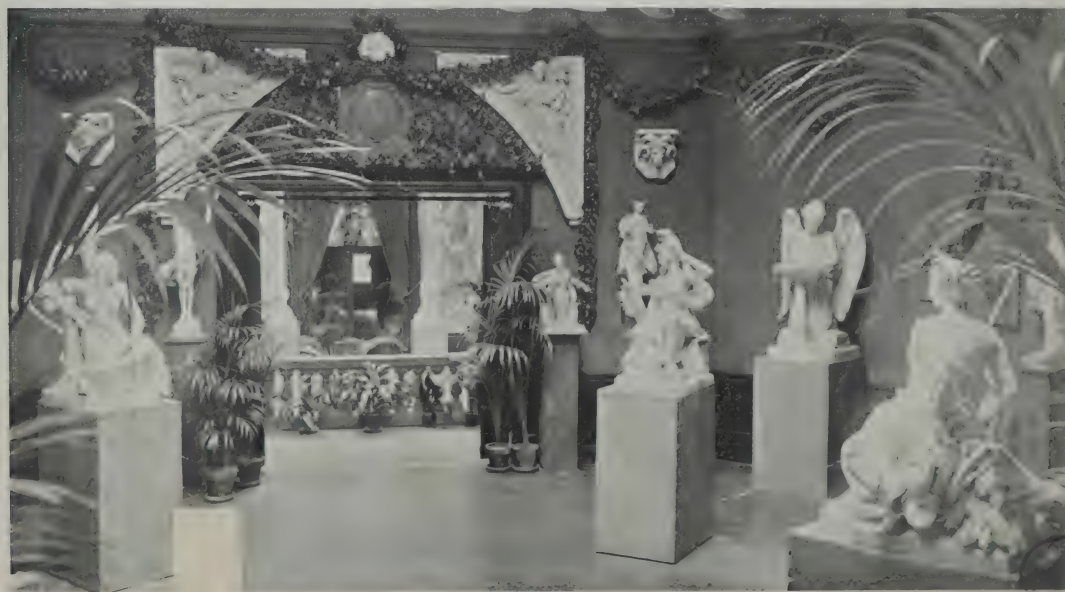




Left Figure, "Arkansas"—Right Figure, "The Signing of the Treaty."—(Louisiana Purchase Exposition.)



Center Figure, "The Workingman," Daniel C. French, Sculptor.  
Left Figure, "Montana," Antoine C. Skodik, Sculptor. Right Figure, "North Dakota," Louis B. Zimm, Sculptor.



Central Gallery.—Statues for the Louisiana Purchase Exposition.



### THE EXHIBITION OF THE ARCHITECTURAL LEAGUE.

THE Exhibition of the Architectural League of New York continues to hold its long established rank as the leading architectural exhibition of the year. The Nineteenth Annual Exhibition is in progress as these words are written, and it not only well maintains the average set by previous shows of the kind, but is, in some respects, the most notable of the series. The exhibitions of the League have always been distinguished by a very decided miscellaneous character, which, indeed, appears inseparable from an exhibition of a body consecrated to the art of building and the decorative arts allied to it. The very miscellaneous character of these exhibitions gave them a certain strength and a very decided interest; for if one was not thoroughly interested in building as building, one might find some decorative feature or some minor art that more than repaid the trouble of a visit to the exhibition galleries.

This year an entirely new departure has been taken by the creation of an exhibition jury, with the result that a very large proportion of the exhibits offered were rejected. The exhibition is thus very much smaller in point of numbers than any previous exhibition. Thus there are not only fewer things to see, but the comparatively small number of exhibits maintains an artistic standard of excellence which is very gratifying.

Neither this exhibition nor any previous exhibition of the League is likely to widely interest the public nor help on public appreciation of architecture. This last might well be the chief purpose to which the League could devote itself, and clearly there is no nobler or more important work before it. Its annual exhibitions are for architects and draftsmen, for artists, painters, sculptors. The mere patron of architecture, the client, the seeker after ideas, the home-maker about to build, in quest of information—all these will find little to interest or benefit them in an exhibition such as the Architectural League holds every year.

Architecture is not domestic building, but a very broad subject which includes structures of every type and sort. The League exhibition is at least definite in giving the architect's conception of an architectural exhibition, and a very professional affair it is. It is a gathering of large drawings, of views of notable undertakings. These are, of course, works of the utmost importance, well worthy to be shown, and well deserving of study. But if the average citizen could be induced to enter these exhibition halls it may be questioned if he would find much to interest him, really interest him. It is an exhibition that appeals to the specialist; very good of its kind, filled with large interest, it still has a narrowness of scope unavoidable in an exhibition conducted on such lines.

In accordance with its custom for a number of years past, the BUILDING MONTHLY presents, on page 59, a sheaf of views of the exhibition as a whole. That the walls are not crowded is apparent, and that much sculpture is shown is also clear. The latter fact is quite to be expected this year, since the sculptors have been busy on work for the St. Louis Exposition, and they have, therefore, a good deal that is interesting and novel to show. The most important work of sculpture, however, is not for St. Louis, but for New York—the fine sculptures for the pediment of the Stock Exchange by John G. A. Ward being the largest sculptural work shown, and one of the most important pieces of monumental sculpture undertaken in New York.

### KITCHEN ARRANGEMENT.

THE most essential room in the house, says an exchange, is the kitchen. It should be built and furnished with the idea of saving labor. Here, especially, there should be as many windows as possible, all reaching to the top of the room, and, if may be, with sun exposure. There should be an opening in the chimney over the kitchen range and a hood, if possible, to the range, to keep the cooking odors from pervading the house. With an eye to the saving of labor, no floor covering is better than linoleum, and all utensils needed around the stove should be near, within easy reach of the cook. Have plenty of cupboards, a good, large, firm zinc covered table, ample sink room, and the sink itself set on legs, with all its traps and pipes exposed to view, according to best sanitary methods. Sometimes a cozy corner is very desirable.

### ATLANTEAU, THE RESIDENCE OF FREDERICK L. SAVAGE, ESQ., BAR HARBOR, ME.

THE illustrations shown on pages 56 and 57 present Atlanteau, the residence of Frederick L. Savage, Esq., at Bar Harbor, Maine. The underpinning and first story are built of Bear Brook granite, with rock-faced ashlar laid in red mortar. The beams of the second and third stories are treated in a natural state with hard oil and stain, and the spaces between the half-timber work are covered with stucco, which is left in its natural silvery gray color. The roof is covered with shingles and is stained a dull shade of moss green. Dimensions: Front, 55 ft.; side, 53 ft., exclusive of porches. Height of ceilings: Cellar, 7 ft.; first story, 9 ft. 6 in.; second, 8 ft. 6 in.; third, 8 ft.

The entrance is into a square central hall, which is trimmed with oak and treated in a Flemish brown. The walls have a plate rack extending around the hall at the height of five feet, from which perpendicular strips descend at various intervals to the base, forming wall spaces which are covered with crimson burlap in an effective manner. The wall space above is tinted to harmonize. The open fireplace is built of red brick, laid in red mortar, with a hearth of same, and a recess containing an ornamental staircase, underneath which



'Alma Mater,' Columbia University.—Daniel C. French, Sculptor  
THE EXHIBITION OF THE ARCHITECTURAL LEAGUE.

a short flight of steps descends to the lavatory. The parlor is trimmed with white pine, and is treated with white enamel paint. It contains an open fireplace of brick, and is furnished with a quaint little Colonial mantel.

The dining-room is trimmed with oak that is treated in Flemish brown, and has a corner buffet built in, and an open fireplace built of brick, with the facings and a hearth of the same, and a mantel. The butler's pantry is fitted with sink, drawers, dressers, etc. The kitchen is trimmed with North Carolina pine, and the servants' dining-room is treated the same, and both are fitted complete. The den is treated in forest green, and it has an ingie nook containing an open fireplace with mottled green tile hearth and facings and mantel.

The second floor is trimmed with white pine treated with ivory white paint, and contains five bedrooms and two bathrooms; the latter furnished with tiled floor and wainscoting and porcelain fixtures and exposed nickelplated plumbing. Each bedroom is fitted with a large well fitted closet, and open fireplace in each bedroom except the bedroom over the kitchen. The third floor contains five bedrooms and a bathroom and a trunk room. The cemented cellar contains a laundry, fuel and furnace rooms. Mr. Frederick L. Savage, architect, Bar Harbor, Maine.

### MR. CHARLES A. PLATT AND THE GARDEN OF FAULKNER FARMS, THE ESTATE OF MRS. CHARLES F. SPRAGUE, BROOKLINE, MASS.

(Concluded from page 47.)

of the space otherwise unoccupied is given to the garden proper, to the plants and shrubs which make it joyous, and to the art works which give it life. The foliage is chiefly that of perennials, but ample space has been left for annual plants, and many brilliant notes of color are won by this combination of natural growth. The garden contains not a few furnishings in the form of old wine jars from Italy, well-heads from Venice, classic busts, carved stonework and balustrades. Yet every one of these objects has been placed with care, and with a result in view that has justified its employment.

Mere words fail in describing a beautiful garden. One needs to walk and linger there, to see it in early morning and in the falling light of twilight. One needs to feel the moods of a garden and feel them sensitively. One can not do that in a single visit or in a single day. One's adjectives fail when one sets forth to describe in any detail the wonderful charm, the exquisite delight, the rare joy of a place like Faulkner Farms. Nature and art reach very high points here.

If Mr. Platt's garden is fine, the natural scenery viewed from the terraces below the house is splendid. Fortunately, they do not come in competition with each other, nor need they be compared. It is simply a happy circumstance that nature and art have lavished so much on this one place.

### RESIDENCE OF D. W. COOK, ESQ., AT ESSEX FELLS, N. J.

THE engravings shown on page 50 present a residence erected for D. W. Cook, Esq., at Essex Fells, N. J. The first story is built of field stone laid up at random with wide mortar joints. The second and third stories are beamed, and the spaces between are filled with stucco, which is left in its natural silvery gray color. The beams and all trimmings are painted white. The roof is covered with shingles and is stained a moss green. Dimensions: Front, 59 ft.; side, 41 ft., exclusive of piazza. Height of ceilings: Cellar, 7 ft.; first story, 10 ft.; second, 9 ft.; third, 8 ft. 6 in.

The vestibule is trimmed with oak, and it has broad doorways with windows on either side. The hall is trimmed with oak and contains an ornamental staircase, at the side of which there is a cluster of windows glazed with stained glass. The reception-room is treated with white enamel and has a bay window with seat, and an archway which forms the separation from the hall. The living-room is trimmed with oak treated in Flemish brown, and contains an ingie nook, provided with an open fireplace built of Pompeian brick, with the facings and a hearth of the same, and a mantel to correspond with the trim, and also a bay window with seats. The dining-room is trimmed with oak, and has also an open fireplace built of Pompeian brick, with the facings and a hearth of the same, and a mantel. The butler's pantry and kitchen are treated in an attractive manner; the whole is treated with white enamel, and with an excellent effect. It contains all the best modern fittings, and the range has a slate hearth and a backing of white enameled tile brick.

The second story is treated with ivory white paint, and it contains a large open hall, four bedrooms, large closets, and a bathroom, the latter furnished with a tiled floor and wainscoting of white enameled tile finished with a border in delicate pink. It is furnished with porcelain fixtures and exposed nickelplated plumbing. The third story contains the servants' quarters and trunk room, reached by a private stairway. Cellar, cemented, contains a well fitted laundry, the heating apparatus, fuel rooms, and cold storage. Mr. Frank E. Wallis, architect, Townsend Building, 1123 Broadway, New York.

### A BOY'S ROOM.

A boy's room at school is described by an exchange. It was hardly as large as the ordinary hall bedroom. A delft-blue figured paper was on the walls, the narrow bed was white iron, and a dresser, writing table, and two chairs, quite filled the apartment. Ruffled white dimity curtains were put up at the one window, and a white linen spread over the dresser top. Two blue Wilton strips served as rugs. A white enameled shelf held books, and the walls were hung with favorite pictures.



# CHATEAU REXSAMER—A MOUNTAIN HOME IN ELIZABETHTOWN, N. Y.

CHATEAU REXSAMER, illustrations of which are reproduced on page 49, is situated near Elizabethtown in the Adirondack Mountains and is built on a steep mountain side. This feature, which threatened to be a disadvantage, has resulted most fortunately, for much of the charm of the house is a result of the rugged way in which it fits the contour of the hillside. A steep road, prohibitive to city horses, leads from the Keene Valley Turnpike to a terrace formed by a high retaining wall in front of the house. This terrace is large enough to allow the carriages to turn with ease.

A series of steps and inclines leads from this terrace to the covered passage that connects the main portion of the house with the dining-room wing. This open passage, with its stone steps and broad coping, is a delightful place to linger in the sunset hours, and the coping is wide enough to pile sofa pillows upon it and against the upright posts for a comfortable lounging seat.

The peculiar features of the building are the absence of stairs inside the main house, the placing of the living-room above the guest chambers, and the placing of the dining-room and kitchen above the servants' rooms and ice house. A familiarity with the ground is nec-

and as the adjoining trees spread heavy foliage toward it, its seclusion is sufficient to give that privacy which is necessary at the kitchen end of a house.

This chateau is a summer residence, and although there are large fireplaces in all the large rooms, making May and October the most cheery months of the year, yet it is in the hot season that the house is principally used. Under these conditions it is no drawback to reach the guest chambers by way of the covered passage and the terrace, and the shed, open on all sides but protected by a high retaining wall, is a more comfortable place for the laundress to work than a room inside would be. This shed is large enough to store the wood for the kitchen range.

The house is built of stone with stucco superstructure. The stone was dug from the surrounding fields, and has the rough, weather-beaten, and moss-covered faces exposed. The cement joints have been raked back deeply, and this softens the effect. The plumbing fixtures throughout are supplied with hot and cold water, and a hot water circulation pipe running from the most distant fixtures back to the kitchen lessens the time that would otherwise elapse before hot water could be had from the faucets after opening them.

Chateau Rexasmer undertakes to combine the charm of a monastery with the comfort of the present day,

and each is fitted with the best modern conveniences complete.

The second floor contains three bedrooms and a bathroom. The hall is trimmed with chestnut, and the remainder of the rooms are trimmed with pine and treated with white enamel. The bathroom is also treated throughout with white enamel and is furnished with porcelain fixtures and exposed nickelplated plumbing. The floor of this bathroom is paved with tile, and it has a tiled wainscoting four feet in height.

There are three bedrooms and storeroom on the third floor. A cemented cellar contains a furnace, fuel rooms, cold storage room.

## BIRDS' NEST, A SUMMER COTTAGE AT DELANO PARK, CAPE ELIZABETH, MAINE.

On page 58 will be found an illustration of Birds' Nest, a summer cottage erected for Mr. Harvey S. Murray, at Delano Park, Cape Elizabeth, Maine. It is a difficult matter to secure a cottage with the combined appointments, as already stated, at so low a cost as \$1,500, but this the architect has been successful in doing. The building rests on a side of a hill, thus forming an excellent basement, which is enclosed with matched stuff painted a dark bottle green. The re-



A BED OF HYDRANGEAS IN THE GROUNDS OF MRS. KIMBALL, NANTUCKET, MASS.—See page 63.

essary to understand the reason of this apparent upside down construction. The floor upon which the living-room and two masters' bedrooms are situated is level with the ground at the rear of the house. In fact, the mountain rises precipitously from the very walls of the building, so that the only view of the sky from this part of the house is through the dormers of the roof. On this floor the family live, and from the open portions of its surrounding porch in clear weather and from the glass enclosed porch in storms they can enjoy the view of the entire valley with the shadows on the meadows, and far below the winding Boquette that catches and reflects the sunlight, and the black massing clouds on the approach of storms.

The ground falls away from this eagle's perch too rapidly for the dining-room to be on the same level with the living-room. It was very desirable to reduce the number of steps between the two rooms to a minimum, and hence the placing of these rooms in the second story of that building. The ice house is so perfectly insulated that its position is not disadvantageous, and no portion of the servants' rooms is below the level of the ground.

The guest chambers, although on the ground floor, are so elevated that their windows are twelve feet above the ground. The beautiful views from these rooms make them extremely attractive. The servants' porch opens from the kitchen, and is cool and apparently not shut in, but as the railing is of stucco instead of open,

and the very features in which it differs from the accepted style of house make its greatest attraction.

The architects are Messrs. Mann, MacNellie and Lindeberg, No. 2 East Thirty-third Street, New York.

## A HOUSE AT GLENSIDE, PA.

THE house illustrated on page 54 has been built at Glenside, Pa., from plans prepared by Laurence Visscher Boyd, architect, Harrison Building, Philadelphia, Pa. It seeks to solve the problem of a single house of moderate cost and suitable for a narrow lot. The porch entrance is on the side and in the center of the house and connected by an open terrace with a covered porch at the end. The underpinning is built of rock-faced stone laid up at random, with wide white pointing. The first story is built of stucco with pebble dashing on the rough cast. The exterior walls above the rough cast are covered with shingles and stained a light tobacco brown. The roof is covered with shingles and is stained a moss green. The trimmings are painted white. Dimensions: Front, 21 ft.; side, 58 ft., exclusive of piazza. Height of ceilings: Cellar, 7 ft.; first story, 9 ft. 6 in.; second, 8 ft. 9 in.; third, 8 ft.

The first story, except the kitchen, is trimmed with chestnut. The hall contains an ornamental staircase of chestnut, rising to the third story. The parlor and dining-room are well lighted and ventilated. The kitchen and pantries are trimmed with yellow pine,

mainder of the building is covered with matched stuff, and then with white cedar shingles, which are left to finish naturally, while the trimmings are painted a dark bottle green. The roof is also covered with shingles. Dimensions: Front, 33 ft.; side, 24 ft., exclusive of piazza. Height of ceilings: Cellar, 7 ft.; first story, 9 ft.; second, 8 ft. 6 in.

The interior throughout is trimmed with white pine, and the studding, floor joists, and all partitions are dressed and exposed to view. The living-room rises up two stories in height, and the second story hall opens into the well, with a balustrade treated with a pleasing effect. This living-room has an open fireplace built of red brick laid in red mortar, with the facings and a hearth of the same, and a mantel of wood. At the side of the fireplace is a paneled seat, over which there is an opening filled in with spindlework. The spindlework forms the partitions between the living and dining-rooms. The pantries and kitchen are fitted up complete with all the modern conveniences. There is but one staircase in the house, placed in the private hall, which forms an access to the kitchen, and is isolated from the living-room. This floor also contains a bedroom.

The second floor contains three bedrooms and a bathroom; the latter is furnished with porcelain fixtures and exposed plumbing. The cellar contains the servants' room, laundry, and storeroom. Mr. John Calvin Stevens, architect, Oxford Building, Portland, Maine.



## VILLA KATHRINE, QUINCY, ILL.

VILLA KATHRINE, owned by W. G. Metz, Esq., Quincy, Ill., illustrated on page 55, is one of the most elaborate examples of the Moorish villa in the United States. It was built after a very careful personal examination of original models in northern Africa, and represents, not only in its general plan but in details as well, the best Moorish ideas of architecture, as applied to this particular class of building.

The villa is approached by an avenue of sycamore trees, and is situated on a high bluff which commands a wonderful view of the Mississippi Valley, particularly to the south, where the shores of Illinois and Missouri extend in stately curves through vast lowlands for fifteen to twenty miles. The scene is one of the loveliest on the river and forms a worthy setting for a unique architectural idea. On approaching the villa one comes in full view of the unique square tower, copied from an old mosque near Tunis. The tower is ornamented on all sides in diamond pattern, and surmounted by a second small tower, which is decorated with oblique waving lines of red and white.

The front entrance is reached by a terrace surrounded by a heavy balustrade in quatrefoil pattern. The entrance itself is a Moorish arch, above which is a small iron grated window, and this again is surmounted by a dome, with its characteristic crescent on the summit. The hand of Allah is set above the doorway, and is sup-

magnificence. A huge stove affair of blue tiling lends color to its particular corner of the room. A short stairway leads from the drawing-room to the court, which is the soul and center of a Moorish villa.

The court is surrounded by a gallery, which is supported by Moorish arches resting on eight twisted pillars, whose capitals are exact copies from the Alhambra. The effect of the court is splendid. The floor is of stone, the central part inside the columns being sunken several inches. The arches are decorated in tiling.

The court is the real living-room of the villa, and is furnished in rugs, chairs, settees, tabourets, etc. The court is surmounted by a glass dome which can be removed at will. It is lighted by a large brass lamp containing twenty-nine lights. Around the court are the dining-room, kitchen, bathroom, and smoking-room. The stairs ascend from the court, and have balustrades painted sea green with dark brown hand rails; the balustrades are of latticework, star shaped. The gallery is surrounded by a handsome railing in latticework and turned pins, painted green and dark brown. Around the gallery are located the bedrooms, with their doors of many small panels decorated with carved rosettes. The entire effect of this villa is one of artistic beauty combined with perfect comfort, and the owner has realized the difficult ideal of a house which is at once curious and beautiful.

The dining-room is treated with white enamel, and is furnished with a paneled wainscoting, ceiling beams, an alcove for buffet, and a large open fireplace, provided with a tiled hearth and facings and a mantel with a pilaster effect. The butler's pantry is fitted with a bowl, a cupboard, and a dresser complete. The kitchen is trimmed with ash and provided with all the best modern improvements.

The second floor is treated with white enamel, and it contains five bedrooms, with ample closet space, two dressing-rooms, linen closet, three bathrooms, besides two maids' rooms, with private stairway. The bathrooms have enameled tiled wainscoting and encaustic tiled floors, and are furnished with porcelain fixtures and exposed nickelplated plumbing. The third floor contains the servant quarters and bath, drying rooms, storage rooms, etc. The cellar extends under the entire house, and is divided into cold storage, vegetable, general cellar and furnace room, coal and wood bins, laundry and servants' closet. Mr. E. G. W. Dietrich, architect, 320 Broadway, New York.

## RESIDENCE OF JOHN H. STEVENS, ESQ., SOUTH ORANGE, N. J.

On page 51 will be found the residence of John H. Stevens, Esq., at South Orange, N. J. The building is a very good example for a modern comfortable compact house. It is constructed of brick laid in Flemish



THE HALL, RESIDENCE OF S. L. SCHOONMAKER, ESQ., PLAINFIELD, N. J.

posed to give divine protection to the inmates of the house. The wooden door is painted dark brown, and is ornamented with original antique brass door trimmings brought from an old Moorish house in Algiers. On the north side of the house is the "mouch Arabe," a characteristic feature of almost every Moorish house, being a projection overhanging the second story supported by wooden braces embedded at their lower ends in the solid masonry of the wall. Here and there are small windows in groups of three, and the large windows are enriched by grilles of Moorish pattern. The villa is built of heavy brick walls, plastered. The vestibule lies transversely to the entrance. An old Moorish lamp of brass stands conspicuously in a corner. Beyond the vestibule is the drawing-room. One enters through grided glass doors. The attention is immediately struck by the row of small square orange-colored glass openings which form an illuminated frieze around this room, the effect being brilliant and startling. To the right as one enters is a unique wall seat, the back of which is tiled, and above the seat is a long ornamented shelf containing antique Moorish pottery. The ceiling is of cypress, showing the beams and finished in natural color. There are corner brackets with pottery, and two niches in the form of compound Moorish arches containing old Moorish mirrors. There is a profusion of Moorish chairs, some of rush, some carved and inlaid, while inlaid brackets, rich hangings and rugs, tables gorgeously painted, and grillework cabinets complete a picture of truly Eastern

## A COLONIAL RESIDENCE AT PLAINFIELD, N. J.

The Colonial residence illustrated above and on page 48 has been erected for S. L. Schoonmaker, Esq., Plainfield, N. J. The building is treated in a modified Colonial style of architecture, and an attractive feature of the exterior of the building is the large veranda extending across the front and returning at the two sides. The underpinning is constructed of rock-faced red sandstone. The superstructure, which is of wood, is covered on the exterior framework with matched sheathing and clapboards. The body is painted a deep Colonial yellow, and the trimmings are painted white. The roof is covered with shingles and stained a dark green. Dimensions: Front, 68 ft.; side, 55 ft., not including porch. Height of ceilings: Cellar, 8 ft.; first story, 10 ft. 6 in.; second, 10 ft.; third, 8 ft.

The interior is trimmed with white wood throughout, and is painted with white enamel. The hall has a vestibule with nooks on either side and a group of three elliptical arches supported on Colonial columns, from the center of which rises a broad staircase provided with spindle balusters and a mahogany rail. The parlor is treated with white enamel, and it contains an open fireplace furnished with tiled facings and a hearth and mantel. The library is finished in a nut brown color and is treated in a dull finish. It has bookcases built in with leaded-glass doors, and an open fireplace. The billiard room is trimmed with ash stained green. It has a paneled wainscoting four feet six inches in height.

bond with limestone trimmings. The roof is covered with slate. The piazza and all exterior woodwork are painted bronze green.

The vestibule, which is paneled, is trimmed with oak treated with an antique finish. The reception hall is also trimmed with oak and treated similar, and is furnished with paneled wainscoting, and a paneled ceiling with a cornice supported on carved brackets. The fireplace has a tiled hearth and facings and a mantel. The cozy nook has a paneled seat, and the staircase is of an ornamental character. The parlor is treated with white and gold, and it has an open fireplace furnished with tiled facings and hearth, and a mantel to correspond with the trim. The dining-room is trimmed with antique oak. The butler's pantry is fitted with drawers, dressers, and cupboard. The kitchen is furnished with sink, pot closet, dresser, and a range.

The second floor is trimmed with cypress, and it contains four bedrooms with large closets, and a bathroom; the latter is provided with a tiled floor and a wainscoting, and is furnished with porcelain fixtures and exposed nickelplated plumbing. There are two servant bedrooms and two trunk rooms on the third floor. A cellar, cemented, contains a furnace, fuel rooms, laundry, etc. Cost, \$8,522 complete. Mr. Carl F. Rehman, architect, 756 Broad Street, Newark, N. J.

Good flowers, grown in a good way, are the most beautiful adjuncts of the country house. A good plant always repays good culture.





## The Household

### A FIFTH AVENUE ENTRANCE HALL.

To enter the door of a beautiful new house on upper Fifth Avenue, says a contemporary, is to find oneself transported magically from a country of bare trees and nipping frost to a land of Oriental luxury and greenness. Wealth, taste, and culture could hardly go further, it would seem, than in creating the vista which greets the visitor's eyes. Architects and decorators long ago drew attention to the value of the hall in the general decorative scheme of a house. They showed how some halls might be described as barely civil, others as inviting, while still others were positively friendly and cordial in the impression they made on the stranger. The hall, they maintained, was not a mere passageway, or a vestibule, or simply a connecting link between the various rooms, necessary as a means of entrance and exit, but otherwise unimportant. They used in their public lectures and classes to teach that the hall should be beautified as much as any other part of the house—more, perhaps, since many people never get beyond the hall.

In the house in question, the conservatory meets the visitor at the very door. The effect is unique, almost startling, reminding one of Burnham Wood. The advantage, however, lies with the Fifth Avenue house, as Shakespeare's trees were only branches of trees, while these are plants growing lustily. Extending back nearly to Madison Avenue, as the hall does, there is room for the tall palms, the shrubs, and the blooming flowers to form an avenue, with here and there a gleaming, graceful figure in white marble. A suggestion of unlimited space is given by this arrangement, which might be copied to advantage in many a smaller, less luxurious house.

A large fireplace, with big logs ablaze, and a comfortable settle drawn up at right angles with it, are another charming feature.

### TO CLEAN BATHROOM FIXTURES.

To clean the nickelplate of the bathroom, remarks a recent writer, a mixture of washing soda and emmonia may be used for the cleaning part, with a little thin whitening paste when it comes to the polishing. These fittings are easily kept clean and bright if treated once a week, but the surface once thoroughly clouded through neglect, it will take many repeated rubbings to restore the original polish and brightness.

### INK AND FINGER MARKS ON FURNITURE.

Ink spots on furniture may be removed by an application of niter. Mix one teaspoonful of water and six drops of niter and apply to the stain with a feather. As soon as the ink disappears rub the spot with a damp cloth to remove the niter, which will otherwise leave a white spot behind it. A saturated solution of oxalic acid is sometimes used in the same manner to rid furniture of ink stains.

Finger marks may be removed from furniture by the use of a little olive oil applied with a bit of flannel. Never put the oil directly upon the wood, but rather upon the flannel and the flannel upon the wood. This same remark applies in the case of any of the furniture polishes. Apply very little at a time and that little never directly upon the surfaces to be improved.—Exchange.

### THE GUEST CHAMBER.

THAT the bed must be comfortable goes without saying, remarks the Sun. It should be a bed of snowy white coverlet and cool linen pillows, smelling of lavender; a bed upon which one can stretch tired limbs, or into which one can creep without ceremony. Put a comfortable couch in the room, if possible. Beside the bed's head put a small table, and on it matches, a candle, a tiny tray holding a covered water bottle or pitcher and glass. If there isn't an electric light from which a bulb may be suspended near the pillow, put a good lamp on the little table.

Have dainty, serviceable wash covers for dresser and pin cushion and put out all necessary toilet articles, in case the guest may have forgotten something essential. Let there be at least one mirror in which a woman can see something below her waist line. A long mirror may be set in the back of a door, at comparatively little expense.

If a bath and a dressing-room are not at hand, provide a roomy washstand, plenty of towels, soap of two kinds, scented and plain; almond meal, pumice stone, and good cold cream. A hot water bag should be in a convenient place. A duvet or light blanket should be ready for use when the guest wants to lie down and throw something over her. A footstool is an essential. A waste paper basket is another.



## Fire Protection

### ASBESTOS BRICKS, PLASTER, AND SLATES.

SINCE the terrible catastrophe of the Troquois Theater fire, in Chicago, the attention of the public has been concentrated on the danger of fire to an extent seldom before manifested. The subject is so important and so ever present that it would seem as though that dreadful event should not have been necessary to arouse interest in such a matter. The general indifference of the people to matters affecting their safety is, however, so marked that nothing short of the severest object lesson seems able to arouse general attention.

Fireproofing material and appliances are now viewed with fresh interest, and everything relating to this subject has a special timeliness. Some applications of asbestos to building materials were recently shown in Paris, and some mention of them should be made in these pages.

Asbestos bricks are called "briques amiantines ou amiantolithes," and can now be made at a moderate cost. They have the great advantage of being absolutely incombustible and unattackable by acids, while at the same time being bad conductors of sound, heat, cold, and electricity. They are composed entirely of asbestos, lime, and silica in strictly defined proportions; and the substances, intimately mixed by special machines, are compressed in the form of ordinary bricks by powerful presses. The bricks are afterward subjected to the chemical action of high-pressure steam, by which means a double silicate of lime and magnesia is formed. These new building bricks, the structure of which is perfectly homogeneous, are said to be equal to the best clay bricks as regards resistance to crushing stress. They are easily cut with the trowel, and take mortar well, while the thickness of joint is reduced to a minimum, owing to the perfectly regular form of the brick. The external appearance is that of dressed stone; and as the bricks can be colored unalterably while in a plastic state, they lend themselves admirably to polychrome decoration.

In asbestos plaster the asbestos is mixed in equal proportions with cement or hydraulic lime for an outside coat, and mixed in the proportion of 2 to 1 of plaster of paris for inside plastering, the only change in these operations being that the coat sets more quickly than usual; but it is necessary to mix the substances dry, very intimately before the water is added. The advantages claimed are incombustibility (including the protection of rolled joists and iron floors from expansion and consequent lateral thrust), deadening of sound, absence of cracks and maintenance of temperature so as to preserve the inside warmth in winter and protect from outside heat in summer. One weight unit of asbestos covers the same surface as 1.354 of plaster; and the additional cost, as compared with ordinary plastering, is very slight, considering the advantages offered.

A third application of asbestos to building takes the form of a tissue, and also of "slates," as they are termed, or rigid plates of very hard surface, employed for roofing and also for outside coating or inside lining. In the first-named case it is stated that the durability is equal to that of zinc, at one-third the cost; and the plates are also lighter, weighing about four pounds to the square yard, while air, dust, and snow are kept out better than by any other substance. The aspect of a roof or wall covered with these plates in lozenge or diamond form is said to be decidedly pleasing; and being flexible, the plates lend themselves readily to covering an arched roof.

### NEW DEVICES FOR FIGHTING FIRE.

AMONG new German devices for fighting fire is an automobile fire train, consisting of an engine, fireman's wagon, and an ambulance. The steam that propels the engine drives the pump when the engine stops. By a pressure of 150 pounds it furnishes 550 gallons of water per minute. A mechanical tower, or revolving ladder, is operated by compressed air. Four long tubes put together telescopically are driven out, and with them the four ladders attached to the heads of the tubes. After it is lifted the entire ladder and its working force can be revolved without turning the truck.

Fireproof outfits for firemen include an apparatus for protecting from smoke and providing oxygen. Another model has a tube for breathing. Another device is a water helmet which throws a protecting spray over its wearer, and enables him to penetrate dense smoke with little inconvenience and affords at the same time protection from flame.

CHEAP woods are helped by staining, which relieves them of their cheap look.



## The Garden

### A BED OF HYDRANGEAS.

THE illustration on page 61 of a bed of hydrangeas in the grounds of Mrs. Kimball, Nantucket Island, Mass., is of interest both for the fine condition of the plants and the size of the bed, which is twenty-five feet in diameter. The hydrangeas are one of the most valuable and beautiful of flowering shrubs, but it is seldom that so large a clump of them is planted. That they make a brave show is very evident from the photograph, which was taken expressly for the BUILDING MONTHLY.

### ROCKERY PLANTS.

It may be useful to print a word of warning on some of the incongruities common in the planting of rockeries. Rockeries, at their best, are often extremely artificial; there is seldom any delusion about them, for both in situation and in planting they bear all the ear marks of artificiality. That they have their place, and a very excellent and happy place, is quite well known, and when properly located and properly planted they are often garden decorations of real beauty. Very often, however, a rockery is arranged simply to diversify a landscape which may need no such diversification; and when, in addition to their unnatural origin, they are planted with plants which do not naturally grow with or among rocks, they become positive eyesores, even if the plants be beautiful and the rocks of the best possible assortment. A rockery should only be planted with plants and shrubs that grow naturally in association with rocks. A very good plan, and by far the safest one, is to avoid the rockery altogether. It is only in the occasional garden that it can find proper development.

### GARDEN ORNAMENTS.

A GARDEN is a place for flowers and shrubs; it should never, under any circumstances, be turned into a museum, or filled up with vases, statuary, and garden furniture. The utmost horror, of course, is the cast-iron statue. It does not matter whether it is of man or beast, it is something which has no place in a garden planned and cultivated with taste. The mere fact that one has these things, that they may be in place when one comes into possession of the garden, that they may have been had cheap, or even if one has a liking for them, is quite beside the question. They are simply impossible, and should be avoided.

Garden ornaments have, of course, their uses and their beauty; but the first requirement is that they should be beautiful in themselves. A garden filled with ugly, ill-kempt plants is no garden at all; it is equally impossible when it is filled with artificial objects of no beauty. Mere arrangement and multiplication of such objects will not make a beautiful whole, for beauty is impossible where ugliness obtains.

### SPANISH GARDENS.

QUITE a new subject in garden literature is opened in the article on Spanish gardens by Helena Ruthford Ely, in Scribner's Magazine for February. The gardens of England, France, and Italy, while never hackneyed—since when is beauty tiresome?—are tolerably familiar; but Spanish gardens are almost unknown in this country.

The climate of Spain, says the writer, during the summer months, is dry and burning; little or no rain falls; streams and brooks become entirely dry, and many rivers flow only in a narrow channel. Except among the mountains, water seems to be scarce everywhere, and yet the gardens are watered with great painstaking. Often the water is carted from a long distance. The larger and finer gardens are usually irrigated. Sometimes the water for this purpose flows from a mountain lake, or from a reservoir built by the industrious Moors. Often it is pumped from wells by a patient donkey who walks blindfolded for hours around a narrow circle. Or again, the primitive pump is worked by two men. Everywhere houses are made gay by window-boxes filled with growing plants. Carnations seem to be the favorite flower for this purpose.

### FLOWER-POT COVERS.

WITH green or any other colored straw canvas, sold by the yard, are made uncommon flowerpot covers. Affecting the shape of a round bag, the mouth is pleated into goffers. A somewhat finer canvas with frayed edges is employed, as formerly foolscap paper, to wrap round bouquets when placed in a jardinière or pretty wicker basket, the straw canvas projecting all round in rustic and informal folds.



## Sanitation

### SEWAGE PURIFICATION PLANTS FOR SUMMER COTTAGES.

MR. JOHN W. ALVORD recently contributed to the Scientific American Supplement a timely article on sewage purification for summer cottages, from which the following extracts are taken:

It is with the idea that modern improvements in the septic tank and subsequent filtration can be adapted for summer resort cottages, where sewer systems are impracticable and the soil of a porous nature, he writes, that the accompanying design has been made.

The flush closet may be situated within the cottage or in a building attached to it, as may be desired. It is not a part of the design, except to show its general arrangement. The plant proper is arranged so as to utilize materials which may readily come to hand as far as possible. Three oak casks, such as are ordinarily used for vinegar, may be purchased at second-hand, and when arranged as shown in the drawings will form the septic tank, the anaerobic filter, and the flush tank. The inlet to the septic tank should terminate at about the center of the septic tank as shown, and should be ventilated with a one-inch pipe conveniently located. From the septic tank the sewage will flow through a short connection to the anaerobic filter, which should consist of an oaken cask buried with its side down. Across the bottom of the cask should be laid a grating of sticks of sufficient strength, so that the filtering material may rest upon them, leaving a free opening below for the circulation of the incoming flow. The materials with which the anaerobic filter should be filled should be fairly coarse at the bottom, growing finer toward the outlet from the filter. A gradation from egg to chest-nut size would be desirable. The outlet from the anaerobic filter should be of a piece of elbow pipe near the top of the cask, so set that it will control the level of the liquid both in the septic tank and the anaerobic filter. Provision should be made between the septic

## The Kitchen

### AN IDEAL KITCHEN.

A WRITER in the New York Tribune writes at some length on the ideal kitchen and its arrangement. Every woman, she says, appreciates a dainty parlor and a neat dining-room, but comparatively few housekeepers realize the value and beauty of a properly furnished kitchen. From the standpoint of health it is even more important that the kitchen be neat than the parlor. The dust and cobwebs of a neglected parlor contain no essentially evil germs, but the greatest menace to the health of a family lies in kitchen neglect; and no one can expect a servant to take an interest in keeping a dingy, dark room, furnished with broken down furniture, in perfect order.

The ideal kitchen should have large windows, through which plenty of light and fresh air can enter. It should have an oiled hardwood floor or one covered with linoleum. Oilcloth will not answer the same purpose. Linoleum is a warm floor covering, and, though not so bright as oilcloth, it is much more durable. The walls may be painted, they may be papered with enameled tile paper, or they may be whitened or whitewashed. The old fashioned whitewashed wall has a great deal to commend it. The whitewash acts as a disinfectant and thoroughly purifies the wall each time it is applied; but it can scarcely be renewed oftener than once a year, and can not be cleaned except by a fresh coat. A painted wall can be scrubbed, but this is a laborious process and is not likely to be attended to as often as necessary. But a wall papered with enameled tile paper can be washed off as frequently as necessary with clean cold water, and does not have to be repainted often. Enameled paper does not absorb odors or smoky moisture as ordinary paper does, and, next to the tiles themselves, which, of course, make the ideal kitchen wall, but are too expensive for ordinary houses, is the best wall covering for a kitchen. Some housewives object to enameled tile paper on the ground that it is an

## The Flat

### FLAT HOUSEKEEPING.

FORMERLY for a woman to do her own work, says a contemporary, meant that she must tussle with buckets of coal and tubs of ashes, and must constantly handle cooking utensils that were only cleaned to become grimy and unlovely again from the smudge of coal dust. The accommodating gas stove has eliminated all this. With heat that can be kindled in a jiffy, regulated to just the requisite degree, with no care for the after clearing out and cleaning, the volunteer cook can bake, broil, and stew to her heart's content without getting scorched or flustered.

A cheerful kitchen is the rule under the new conditions, for very serviceable, durable saucepans and kettles in the new enameled wares show out in dainty colors, old blue, shrimp pink, terra cotta. Even the bread and cake boxes and the caddies for coffee and tea are brightened with pretty designs and apt mottoes. The ladles, the stirring spoons, turning forks and measuring cups are all more shapely and lighter in weight and hue than formerly. And all manner of cunning, attractive conveniences for expediting the different branches of culinary work are provided. Magic powders and stuffs for cleaning enable the housewife to banish grease and dirt with the smallest expenditure of labor, and only such damage to the hands as can be removed with a little care. The superior quality and the increased variety of the canned meats and vegetables now available make an appetizing meal procurable with very little work. Many nourishing dishes that need only the proper heating and seasoning to be palatable are at the housewife's command.

### CHEAP APARTMENT HOTELS.

THE most conspicuous feature of the building activity in the residence districts in New York during the last three years and a half, says a real estate authority, has been the great increase in the production of apartment hotels. Particularly since the tenement house law now in force was enacted, apartments of the hotel type have largely superseded housekeeping apartments in new construction work. More capital is being invested in the former class of housing than in the latter.

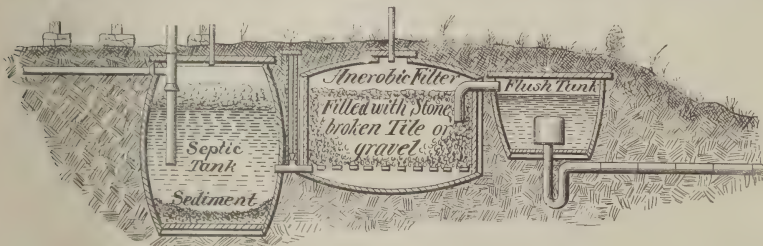
Architects and builders are now aiming to produce apartment hotels in which rents may be made to average \$25 a room a month. The principal problem which they have to solve is to secure land at less than \$1,500 a front foot in a central and fairly attractive location. This would not have been difficult to do a couple of years ago, but land values in such locations have for the most part gone beyond that figure, chiefly through the recent activity in apartment hotel construction. Even at \$30 a room, however, it is as cheap to live in an apartment hotel as in a good boarding house, if one cares to invest a couple of hundred dollars in furniture.

### FLATS IN PHILADELPHIA.

THE popularity of the Philadelphia apartment house has been so great since the first one was opened for business several years ago that many others have been erected in all parts of the city, and in the winter months most of them are filled. Generally speaking, these houses are large enough to accommodate from 100 to 400 persons, and at least one in the city could provide for many more than 400. They are divided mainly into apartments of two, three, and four rooms, with a bathroom for each apartment, and sandwiched in between are a few single rooms with baths for single men and single women, who generally like this kind of living pretty well, because apartment house folks are sociable and no one who is with them need be lonesome.

Rents vary greatly, from single rooms at \$20 a month to big apartments at \$200 a month, and in some cases much more than \$200. The dining-rooms are large and generally attractive, and the charge for board is either \$7 or \$9 a week for each person, with a reduction of \$1 for those who eat only two meals a day in the house.

Housekeeping under such circumstances is easy. Most of it is done by the women of the family, who make their own beds and do their own dusting, and once or twice a week have a maid, engaged from the staff of the house, to do the heavy sweeping and cleaning, a process which is known in housemaid parlance as tearing out, probably from the vigor with which it is conducted.



tank and the anaerobic filter for emptying the larger portion of their contents at the end of the season. The device shown in the drawing consists of a tee in which a wooden plug fits, which is removed by being fastened to a stick coming to the surface of the ground. This will drain the casks below the level of the cast-iron pipe and prevent any trouble from freezing during the winter.

The flush tank consists of a cask sawn in half and covered with plank as shown. A good three-inch cast-iron siphon should be set in its bottom. This is really the most expensive item connected with the plant, and upon its regular action will largely depend the success which the plant will show. The flush tank will fill and empty in proportion as the closet is used, and probably will be discharged at least twice a day in ordinary cases. The outlet of the siphon is connected with a line of ordinary farm tile, the grade of which in porous soils should be away from the flush tank at the rate of about 0.2 foot in a hundred feet. If laid in fine sand the joints of the farm tile should be surrounded with coarse gravel or tar paper to prevent the sand from entering the tile. In localities where the ground is not sufficiently porous, greater length of tile should be laid, but in fairly porous soils about one foot of tile ought to be laid for every gallon of sewage passing through the plant in twenty-four hours.

In very stiff and impervious soils a trench should be dug two or three feet below the level of the tile, and underdrained to some outlet in the vicinity. The trench should then be filled with coarse sand and gravel, beginning with the gravel at the bottom. The discharging tile should then be carefully laid as heretofore described. The top of the trench may be then covered with soil, and no difficulty ought to be experienced with oversaturation.

The total expense of the plant here shown, not including the closet or closet bowl, will be about \$25, although this will vary in different localities.

imitation of the genuine tiled wall, and that imitations are in bad taste. But, while there is reason in this view, the enameled paper is so clean and wholesome and so much better than anything else, that it seems to be the only thing to be considered for the average kitchen. Enameled paper can be procured in designs that do not resemble tiles very closely, and some of them are most artistic.

A pretty kitchen was recently papered with enameled paper, decorated with a simple design of fleur de lis in delicate blue against a cream ground. Ordinary paper, it seems needless to say, should never be used in a kitchen.

All the furniture in a kitchen should be of solid wood. Tables with hardwood tops, covered with white oilcloth, save the daily scrubbing of pine top tables. An old fashioned kitchen dresser fitted into the wall is always a useful and picturesque bit of furniture. The American fashion of keeping pots, kettles, and other kitchen utensils in a closet by themselves, instead of hanging them on hooks about the kitchen, is a sensible one, provided it is not taken advantage of to conceal half washed kettles and saucepans. The advantage of the European fashion is that the articles hung in broad light must be kept scrupulously clean; but, though they add to the picturesque effect of the kitchen, they also collect dust. Wire screens at the windows and doors are necessary in the summer and autumn to keep away flies, and dark shades are desirable to keep out the intense sunshine of summer. Simplest muslin curtains, which can be laundered every other week or once a month, may be hung at the windows.

Although it is desirable to have the kitchen picturesque, no housekeeper with common sense will put in it anything of ornamental value only, with the exception of a few plants, which will thrive better here in winter, provided they have plenty of sunshine, than in any other part of the house, as they will be moistened almost continually by the steam from the cooking.



# New Building Patents

The following list of New Patents relating to Building and Sanitary Science is prepared expressly for the SCIENTIFIC AMERICAN BUILDING MONTHLY by MUNN & Co., Solicitors of American and foreign Patents.

A PRINTED COPY of the specification and drawing of any patent in this list, or any patent in print issued since 1863, will be furnished from this office for 10 cents, if exact date or number is furnished. Remit to MUNN & Co., 361 Broadway, New York.

## BRICK, STONE AND TILE.

BUILDING BLOCK. F. B. Henry, Philadelphia, Pa. January 5	748,603
INTERLOCKING BUILDING TILES. J. Schall, Evergreen Park, Ill. January 5	748,989
BUILDING BLOCK. O. H. Bolen, Denver, Col. January 5	749,020
ROOFING TILE. W. P. Graith, St. Louis, Mo. January 12	749,182
BUILDING BLOCK AND WALL. F. E. Kidder, Denver, Col. January 19	749,796
COMPOSITE BUILDING MATERIAL. R. Hartman, Madison, Wis. January 26	750,456
BUILDING BLOCK AND WALL. C. N. Allerding, Mansfield, Ohio. January 26	750,562
INTERLOCKING TILE FOR FLOOR OR WALL COVERINGS. A. W. Nilsson, New York, N. Y. January 26	750,779
TILING. A. A. Spadone, New York, N. Y. January 26	Design 36,761

## CARPENTRY.

FASTENING MEANS FOR PARQUET FLOORS, PANELING OR THE LIKE. W. S. Kelley, Meriden, Conn. January 5	748,746
WINDOW PARTING STRIP. C. W. Wright, Cleveland, Ohio. January 5	748,905
REVOLVING WINDOW. E. C. Somers, Corning, N. Y. January 5	749,100
DOOR OR WINDOW TRIMMING. F. C. Walbridge, Hordellville, N. Y. January 5	749,118
WINDOW. O. Frotscher, Philadelphia, Pa. January 12	749,608
WEATHER STRIP. F. Fournier, Pontiac, Mich. January 19	749,897
STAIR STRUCTURE. N. Bols, New York, N. Y. January 19	750,156
WEATHER STRIP. S. Lenzner, Detroit, Mich. January 26	750,662

## CONSTRUCTION.

METAL WINDOW FRAME AND SASH. J. A. Knisely, Chicago, Ill. January 12	749,201
ATTACHMENT FOR UNITING METAL BARS AND BEAMS. Purdy and Lane, Jersey City, N. J. January 12	749,222
FLOOR, SIDEWALK, ROOF OR LIKE SUPPORT. P. H. Jackson, San Francisco, Cal. January 12	749,440
TEMPORARY SUPPORTING FORM FOR MASONRY STRUCTURES. G. W. Jackson, Chicago, Ill. January 12	749,735
SECTION FOR BUILDINGS. W. A. Warner, Bridgeport, Conn. January 19	749,762
METALLIC STUD OR THE LIKE. M. Hegborn, Chicago, Ill. January 19	749,862
SHEAF METAL ROOF ADJUNT. J. H. McEvoy, Dallas, Texas. January 19	749,943
IRON BEARER FOR CONCRETE STRUCTURES. T. Franke, Berlin, Germany. January 19	749,987

## ELEVATORS.

ELEVATOR. N. Hiss, New York, N. Y. January 12	749,193
ELEVATOR BRAKE. G. E. Carnes, St. Louis, Mo. January 26	750,597

## FIRE-PROOFING AND FIRE EXTINGUISHMENT.

FIREPROOF BUILDING CONSTRUCTION. C. F. Buente, Pittsburg, Pa. January 19	749,812
FIREPROOF FLOOR CONSTRUCTION. J. Schall, Evergreen Park, Ill. January 19	750,066

## HARDWARE.

LOCK. E. Mohlinghaus, Mettmann, Germany. January 5	748,772
WINDOW LOCK. W. Dzink, Duquesne, Pa. January 5	749,041
DOOR HINGE. J. R. Hartman, Davenport, Iowa. January 12	749,379
SASH FASTENER. R. Anderson, Seattle, Wash. January 12	749,469
FASTENING DEVICE FOR DOORS AND SASHES. V. Ball, Holyoke, Mass. January 12	749,515
SASH-LOCK FOR WINDOWS. T. J. Sutton, New York, N. Y. January 12	749,642
SASH FASTENER. J. Anderson, Seattle, Wash. January 26	750,420
SASH HOLDER. W. Lencke, Camden, N. J. January 26	750,469
WINDOW HINGE. W. F. Stough, Prattville, Ala. January 26	750,730

## HEATING AND VENTILATION.

VENTILATOR FOR WATER CLOSETS. C. H. Muckenhirn, Detroit, Mich. January 19	749,875
HEATING SYSTEM. F. C. Goff, Denver, Col. January 26	750,858
RADIATOR CONNECTION. J. S. Brennan, Milwaukee, Wis. January 26	750,582

## MISCELLANEOUS.

METHOD OF TREATING WOOD. K. Wadamori, Orange, N. J. January 5	749,004
PAINT SPRAYER. H. R. Cooper, St. Butler, Pa. January 19	749,774

## PLUMBING.

PIPE FITTING. P. J. Madden, Chicago, Ill. January 12	749,309
HYDRANT SYSTEM FOR CITIES. J. B. Johnson, St. Louis, Mo. January 12	749,563
STRAINER ATTACHMENT FOR WASHBASINS. D. B. Allen, Baiton, Cal. January 19	750,043
FLUSH TANK APPARATUS. Senger and Kelly, Flushing, N. Y. January 19	750,228

## TOOLS.

CARPENTERS' FOLDING SQUARE. W. Steers, Sr., Chicago, Ill. January 5	749,112
HAND PLANE. E. Haydock, Manchester, England. January 19	750,189

# Heating Talk

## A NEW SYSTEM OF HOT WATER HEATING.

AN Austrian firm has placed on the market a quick circulating hot water heating system that really has some new and interesting points. The fundamental idea is to increase the velocity of the water to such an extent as to permit a material reduction in the size of the piping, besides placing the radiators, piping, and even the boiler, in places where it was deemed impossible heretofore.

This increase in velocity is secured, partly, by raising the temperature of the water in the boiler above 212 degrees, thus causing the upper end of the rising main to be filled with a mixture of very hot water and steam particles, whereas the descending column is a solid body of water very much lower in temperature. So far the thought or idea itself may not be new, for others have tried, by the introduction of steam directly into the water, to attain the same results; but although rewarded with a measure of success, their arrangements were too complicated to command the confidence necessary to make their system universally popular.

Every engineer who has had experience with hot water heating knows, says a writer in the Metal Worker, that the velocity increases with the temperature, and will have noticed that as soon as the temperature of the water was raised much above the normal temperature the noise and trembling in the entire system made high temperatures impractical. To obviate this noise there is inserted in the rising main pipe a cylinder termed the regulator, which must be of a certain larger diameter than the main pipe and of a certain length, and is calculated especially for each particular system, the extent and size of the heating job determining its size. It amounts, really, to an increase in the size of the rising main at a certain point between the boiler and the expansion tank.

## MOISTURE IN HEATED HOUSES.

A NOTABLE paper on moisture in heated houses was read by Mr. R. C. Carpenter at the recent meeting of the American Society of Heating and Ventilating Engineers in New York.

The amount of moisture, said the writer, required to maintain the relative humidity the same as the outside air may be of considerable amount. Thus, supposing saturated air at 10 degrees Fahrenheit be introduced into a room at the rate of 1,000 cubic feet per hour, we find by consulting tables that in order to maintain the air at the saturated condition we shall need to introduce, if the air be warmed to 70 degrees, about 6.8 grains of water for each cubic foot, or for the 1,000 cubic feet we would need 6,800 grains, or practically one pound per hour. It, however, is probably never desirable to maintain the air at a condition of absolute saturation, but it is generally thought to be desirable to maintain its relative humidity at a point approximating 50 per cent. of saturation, or within 10 to 15 points of the ordinary relative humidity of the outside air. If this condition were produced, about 50 per cent. as much water would be needed as indicated in the previous calculation—namely, about one-half pound of water per 1,000 cubic feet of space per hour. A building containing 10,000 cubic feet of space would, by this calculation, need to have something like 5 pounds of water, or say 2½ quarts, evaporated per hour in order to maintain the degree of humidity somewhat near that usually found in the outside air. This calculation is interesting as showing that large amounts of water may be needed to preserve the relative humidity the same as that of the outside air during the processes of heating.

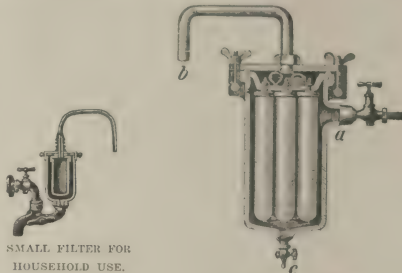
I am of the opinion that popularly the hot-air furnace is credited with removing more moisture from the air which it warms than is the case with the steam or hot-water radiator. From the effects, however, which I have frequently observed as to the drying out of furniture and the shrinkage of woodwork generally, I am inclined to believe that this opinion is somewhat in error, and I think that accurate measurements will fail to prove the hot-air furnace to be a greater sinner in this respect than our other systems of heating. The hot-air furnace is usually provided with a water pan so located that an opportunity is presented for the air to absorb moisture; but the experience with the pan, as usually constructed, has in most cases proved that it was entirely inadequate to accomplish any useful result. It is very seldom that any attempt is made in the case of steam or hot water heating to supply the necessary moisture required to keep the air at a uniform degree of humidity, although it may often be necessary.

It should be noted that very frequently the air in the houses is not over 12 to 15 per cent. saturated.

# Publishers' Department

## FILTRATION OF DRINKING WATER.

NOTWITHSTANDING the fact that the filter illustrated herewith is known to be thoroughly efficient in doing its work under all guaranteed conditions, it would fall if placed in the posture it accidentally assumed in our last issue. We herewith present it in the correct position.



The engraving represents a Berkefeld large supply filter, a very rapid germ-proof filter, which gives a maximum quantity at a minimum cost. This economic and reliable apparatus is especially useful for manufacturers, hotels, clubs, and institutions requiring large quantities of distilled water. The address of the Berkefeld Filter Company, the makers of this device, is No. 4 Cedar Street, New York, N. Y.

## METAL ROOFING.

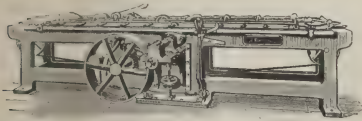
THROUGH special patented features, the roofing under consideration in this article automatically expands or contracts without the slightest injury to the material or to its absolute storm-proof tightness. This metal roofing is made of separate pieces, called shingles or sheets, cut from heavy sheets of tin, stamped into shapes and patterns that have become standard. The kind just mentioned is manufactured by the Cortright Metal Roofing Company, and the patented feature is the device by which the shingles or slates are locked together. The secret of its efficient weather-proof qualities lies in the patent side-lock, a perfect lock, which can not become unhooked after being laid, and can not be pulled apart, at the same time providing amply for the shrinking and expanding changes of the metal. In locking them there is no danger of leaving them unhooked at any point, the lock being always in view, and so constructed as to throw the slate or shingle square with the preceding one. The duty of a roof is to keep out rain, snow, sleet, and wind, to make an ornamental finish to a building, and to wear as long as the structure itself without frequently needing repairs. When this covering performs these functions which secure protection, appearance and stability, it guards the interest-bearing capital invested in the building, beautifies the exterior, and insures the living refinements and comforts that make for indoor health and pleasure. A roof furnished with Cortright shingles will not let in snow, wind, or rain, and dampness getting into sills and rotting the joists is impossible. Such a cover allows no splitting or curling of shingles, no cracking or flying off of material resulting from an adjacent fire, and no rattling of the whole or any part in a stiff gale of wind. The roofing, being very light, requires light framing, and can be successfully laid by any mechanic who will follow the furnished instructions. An advantageous feature resides in the fact that it can be taken off and relaid on another roof without damage or waste. Other favorable points consist of its transportability to any place without injury, its being as suitable and valuable for fireproof siding as for roofing, and its quality of taking any desired appearance by the color of the paint used. The character of metal that enters into making a roofing determines how long it will render good service. Totally apart from the merit of the patented features of the Cortright slates, the tin the firm uses gives its roofing the wearing property. The roofing is made from what is known to the trade as I. C. Prime Charcoal Roofing Tin, the very best manufactured, being selected thin sheets of steel, heavily and evenly coated. The sheets weigh 216 pounds to every box of 112 sheets, 20 x 28 inches, the standard weight of "Prime" plates. The company supply special or private brands of tin, but recommends its own standard grade to answer the most exacting conditions. It makes metal slates or Victoria shingles from copper, and furnishes



galvanized shingles. The sheets are first coated with tin, and after the slates or shingles are stamped they are galvanized, thus securing practically a double coating, leaving no raw or cracked edges exposed. Whether the roofing should be painted or galvanized is a question necessarily to be answered by the architect, builder, roofer, or owner, but generally all are consulted. The firm has always used the same paint, and made under its own formula of oxide of iron, pure boiled linseed oil, and other special ingredients. The painting is done by dipping each piece in a vat of paint, and the goods are allowed to stand several days before shipment. Another coat of paint is recommended soon after the roof is laid, and after that every four or five years will be sufficient to give indefinite life to the roof. Galvanizing is done by dipping each plate separately into a bath of melted zinc, which adds a second coat of fifteen pounds on each square (100 square feet) of goods. This heavy coating increases the durability. In applying the roofing all that is needed is a pair of hands, a pair of shears, hammer and nails. There are no seams to make, and every shingle fits into its counterpart, making its own joints; a couple of hammer taps, and the work is accomplished. The company furnishes a roof complete, including trimmings; that is, ridge-coping, hip-covering, valleys, etc.; also corner finish and gable end finish, steel barbed wire nails, and the best quality of sheathing paper. The Cortright Metal Roofing Company has offices at No. 50 North Twenty-third Street, Philadelphia, Pa., and No. 134 Van Buren Street, Chicago, Ill.

#### GLUE JOINTER.

It gives us pleasure to show our readers the accompanying illustration of a machine for glue jointing—a machine embodying many improvements for insuring good work. Attention is called to the most important of these. It is made in sizes to joint six and one-half to eighteen and one-half feet in length, and stock from one-eighth to three inches thick, while any kind of wood can be worked to advantage. It does not require an expert to operate the mechanism, as all the different adjustments are easily and accurately made, and the machine is simple in construction and rapid and efficient in operation. Two or more pieces are worked at once, making an accurate joint, and perfectly preserving the face side of the material. The frame is solid and substantial, insuring steady run-



AUTOMATIC GLUE JOINER.

ning at high speed. The mandrels are of improved construction for matching a joint of any shape with more gluing surface, and making a stronger joint than can be accomplished on any other machine made by the J. A. Fay & Egan Company. The spindles have angular adjustments and there is no overhang to the table. The table clamps two boards of uneven thickness at once. The feed is noiseless and automatic, under instant control of the operator, and the return movement is easy and rapid. By an ingenious device the mandrel drops below the cut, so that stock has its surface free of the cutters on the return movement, and there is no jar of throw and very little vibration. The machine will make tight joints on staves for tank and other such work, heretofore considered impossible. The J. A. Fay & Egan Company, Nos. 209 to 229 West Front Street, Cincinnati, Ohio, will send free, to those requesting it, its new catalogue of woodworking machinery.

#### PORCELAIN ENAMELED BATHS AND LAVATORIES.

THE simple accomplishment of a toilet or a bath is of course secured by the user of the cumbersome and unsightly tub and the ill-ordered fixings of the old style bathroom. But the desire for the progressive refinements of living has produced a need of such constructive features in the modern bath and toilet rooms that will include hygienic, artistic, and luxurious improvements in proportion to the means of the installer. That the development has come more quickly than expected any one will realize by looking over the lavatories of the recent catalogues, and to a very marked extent, for instance, in the one issued by the Standard Sanitary Manufacturing Company, which we consider bears the stamped impression of representing absolutely perfect work. The appearance of the articles and their accessories manufactured by this firm is commendatory from the point of view of any side of plumbing, whether the work is on the lines of beauty, health, utility, or final economy, and should be sufficient to produce entire confidence in any builder or remodeler desiring to study the question of adaptability of such goods for the places intended. That

the issue is as important to homes, institutions, or general buildings as any that arises is now admitted, and no doubt the sanitary and ornamental success in the science and art of plumbing as achieved in the newest patterns and systems shown by the best makers is now only a matter of how the finishing or local plumber does his work. The "Standard" porcelain enameled baths and lavatories manufactured by the Standard Sanitary Manufacturing Company, of Pittsburgh, Pa., are gracefully and artistically designed in one piece, without cracks or plaster paris joints, thereby insuring perfect sanitation and entire avoidance of leakage, inconveniences, and dangers. Their pure whiteness, dainty appearance, and strength of workmanship make them desirable on sight. To illus-



LAVATORY WITH PEDAESTAL BASE.

trate this with reference to the lavatories we insert herewith two engravings, taken from advance sheets of the new catalogue "P," which is to be published about the first of March. The first is called the "Standard Copley," plate 1035 G, porcelain enameled, with oval slab, bowl and apron all cast in one piece, porcelain enameled pedestal, "Torrance" pattern nickel-plated Fuller faucets, with china handles and indices, and nickel-plated Imperial waste with china index. The other represents the "Standard Copley," plate 1036 G, with oval slab, bowl and apron cast as the above, nickel-plated legs with wall supports, low pattern compression faucets with china indices, Imperial waste with china index, three-eighths inch I. P. size supply pipes and vented "P" trap. These are only minor examples of the work shown in the remarkable catalogue now about to be issued. As an artistic and scientific presentation of the higher order of goods this elaborate book rivals any catalogue in its line ever published, and in many respects it may claim to be "hors concours." The definition of even the most delicate outlines of minutest gear is simply perfect in all the illustrations, and the ensemble is as realistic as the best photography can secure. This new catalogue will of course be in advance keeping with the company's previous successes in artistic work, and with its improvements will keep step with the splendid increase in range and styles of the output of the great works at Pittsburgh. It will contain about five hundred and twenty-five pages and over seven hundred illustrations in half-tones. The patterned grace,



LAVATORY WITH LEGS.

the enameled brightness, and the favorable backgrounds of the illustrations give those desirable contrasts that make these pictures gems of color and interpretation. It would almost seem that artistic excellence in a book is in a measure an interference with mechanical accuracy of lesser details, such, for instance, as those obtaining in the plumber's craft, but in this case the results show that the tone and outline means employed have vividly aided the exposition of the manufactured articles. In the make up the best materials are being used throughout the entire book. The paper is one hundred pound double coated, made specially for it, and the cover and binding will be such

that it is not likely to be surpassed. The printing and engraving are being executed by the Chasmar-Winchell Press, of New York. The new catalogue will greatly facilitate the sale of "Standard" goods, and be appreciated not only by the plumbers and architects who obtain copies, but by the building public as well.

#### UTILIZING THE KICK TO GENERATE POWER.

A VERY simple and ingenious device designed for application to light machinery which is to be driven by foot-power, and offering many advantages over the usual treadle, is sold by Slotkin & Praglin, No. 210 Canal Street, New York. Mounted on the driving shaft is a fly-wheel, a simple clutch, and a pinion. This segment may be swung forward by kicking a foot-plate attached to a lever, which is rigidly attached to the segment. When the lever is kicked forward by the operator, it communicates the motion to the pinion, which causes the clutch to grasp the shaft and revolve it, thus setting the fly-wheel in motion. When the forward pressure on the lever is discontinued, the clutch releases the shaft, whose motion is continued by the energy stored in the fly-wheel, and allows the lever to swing back like a pendulum. An occasional kick keeps the machine running, the speed depending upon the frequency and force of the impetus given to the swinging lever. The device has been on the market for ten years and has been successfully applied to sewing machines, light lathes, sensitive drills, grinding and buffing machinery, routing machines, circular saws, etc. The above firm is about ready to introduce portable forges equipped with this efficient device.

#### SMOKELESS CITIES.

NOT the least interesting feature of the St. Louis Exposition of 1904, says the Tribune, will be the attempt to show the country how easily smoke may be dispensed with when soft coal is used. The managers intend that, in the generation of the twenty thousand or twenty-five thousand horse-power which they will require, coal should be so burned as to emit no visible fumes. Furthermore, they will urge all railway companies running trains to the grounds to affix smoke suppressing devices to their locomotives. This policy has been adopted at the instigation of a local nuisance abating society, and there is much reason for faith in its feasibility. In fact, both on railways and in stationary power plants it has of late been repeatedly demonstrated that the evil in question can be overcome by careful stoking, and without the use of special appliances to promote combustion.

The American Machinist remarks that if the St. Louis plan can be carried out strictly, a service will be rendered to the country greater than such exhibitions are usually credited with. And the lesson is particularly needed in the West, which is unable to obtain anthracite except at prohibitive prices.

But there is another way to free a large community from smoke. All the power required for factories and the operation of street railways might be developed at a central station outside the city limits and be transmitted to consumers in the form of electricity. One of the great movements of the age is toward the employment of electric motors to drive machinery of all kinds, in order to get rid of belts and shafting, and thus to save both space and power. Another advantage of the system is that the power may be conveniently brought from distant places where circumstances favor its cheap development, like Niagara or the slopes of the Sierra. Some of the electricity which San Francisco now uses is generated in the Yuba Valley, more than two hundred miles away. But all the streams in this country together are not sufficient to generate a tenth of the power actually needed. Hence fuel is an absolute necessity.

When small consumers of power obtain it, like gas, water, or current for lighting and driving electric fans, from a big producer, it should be much less expensive than when developed on the premises. Power costs less when generated on a large scale than on a small one.

THE latest novelty in house building is one of beer bottles! Empty, of course, for a house built of filled beer bottles is plainly an absurdity and an impossibility. The lone State of Nevada claims this latest contribution to architectural skill, and the utter paucity of building materials is the excuse given. The house is said to be sixteen feet by twenty, to contain two rooms, and to be eight feet high. An air of probability is given to this account by the statement that a family of four have passed a winter in this dwelling.

New types of stoves of either the "slow combustion" or "well fire" classes should not be fixed in old houses, unless a thorough examination of the hearth and its surroundings is made, numerous fires having been caused from timbers being in close proximity to chimney breasts, quite unknown to the people who fixed new and powerful stoves in old openings.



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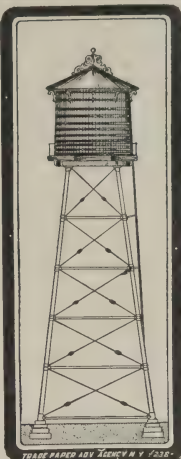


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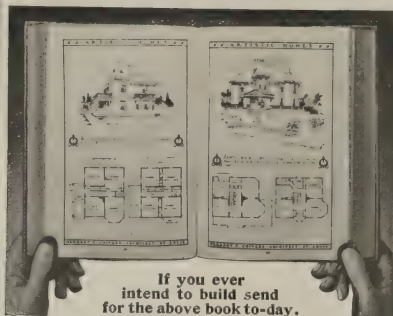
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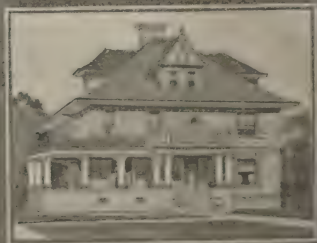
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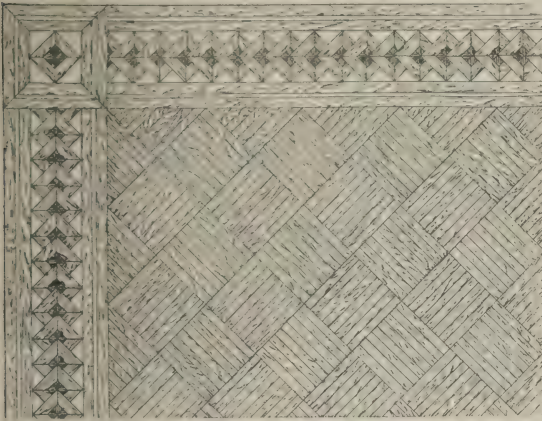
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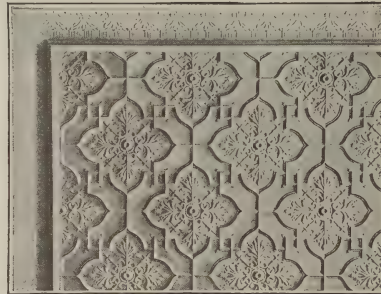
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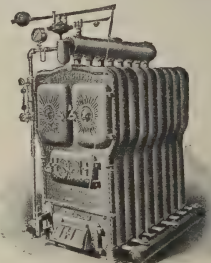
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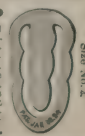
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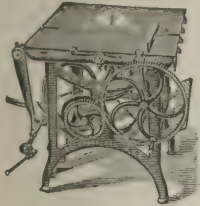
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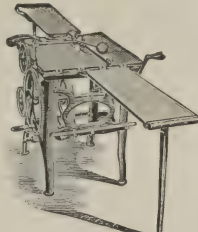
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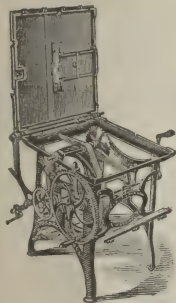
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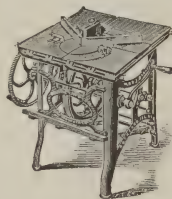
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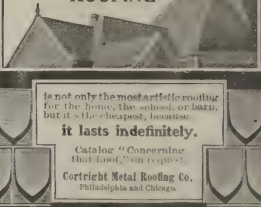
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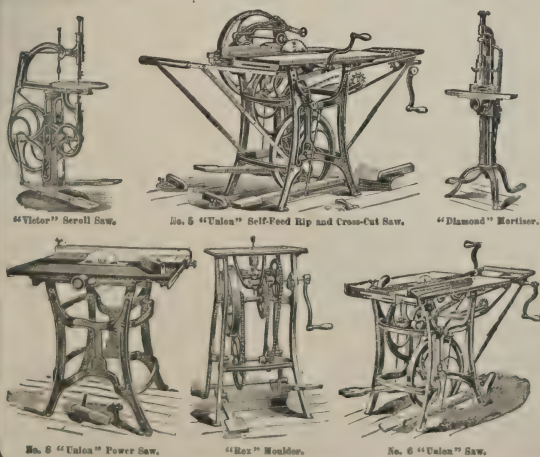


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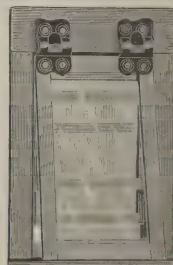
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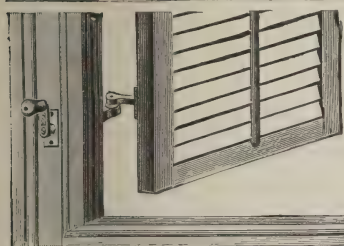
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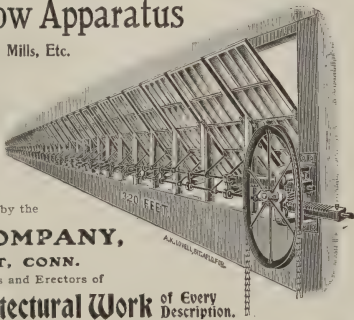
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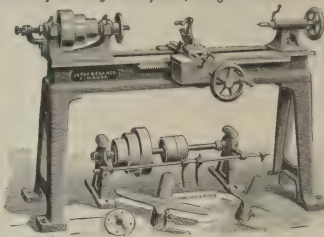
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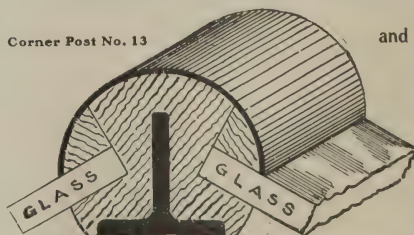
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No. 222

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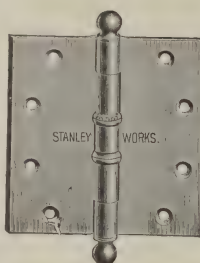
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## Building Monthly.

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THE TERRACE-HOUSE OF E. J. BERWIND, ESQ., NEWPORT, R. I.—See page 69.  
MR. HORACE TRUMBAUER, ARCHITECT.



# SCIENTIFIC AMERICAN BUILDING MONTHLY

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\*The engravings presented in this issue are made from photographs taken specially for the SCIENTIFIC AMERICAN BUILDING MONTHLY.

## MONTHLY COMMENT.

THESE are, of course, many differences between American and foreign cities, but perhaps the most notable one is the charm that many of the old buildings of the older cities of England and the Continent have, as compared with the general monotony and lack of charm in our American cities. So far as monotony is concerned, it is but fair to point out the palm is certainly borne by the newer European towns. Nothing more deadly than some of the newly built quarters of the smaller French cities can be imagined; unless it is some small Western American towns where such a person as an architect is quite unknown. The presence of architects and their works does not, unfortunately, mean the gift of charm to the communities benefited by their presence; but if an architect has taste and skill, it is entirely his own fault if he does not produce some buildings of interest.

But the interest of the old buildings of Europe is something quite apart and distinctive. It is something which the greatest skill of to-day can not reproduce. It is the refining touch of age, which men can not manufacture, and which is acquired so slowly that no living man can hope to see his contemporary buildings so improved. Time softens ornament. It rubs down rough edges, it darkens high colors, it beautifies even uninteresting buildings exactly as age gives dignity to men and women. We have far too little of this in our land, where the march of events is so rapid that the old structures must make way for new ones, and where even new buildings have newer successors within astonishingly brief intervals of time. Modern ingenuity has produced many counterfeits of old works of art, but it has not yet undertaken to make a new building look old. It is at least certain that if we are to have beautiful buildings they must be beautiful from the very beginning; we simply can not wait for them to grow beautiful through age. And it some-

times seems that the very greatest age will never give beauty to many modern structures.

THE past winter is likely to stand as a notable one in matters of fire; the records do not show a severer season, and no one can wish a worse one. The horrible catastrophe of the Iroquois Theater fire in Chicago was alone sufficiently terrible to make the winter a memorable one; but the later fires in Baltimore and Rochester, the many large buildings which have been destroyed by the same agency in various parts of the country, make up a sum total that is truly formidable. One fact stands out firmly in all these catastrophes, and that is the superiority of modern building methods as exemplified in fireproof construction. No one maintains that that system is absolutely proof against fires of all sorts and intensities; it is simply the best we can do, and that that best is often excellent has now, unfortunately, been abundantly demonstrated.

SHALL the architect always follow the instructions of his client if they are compatible with the laws of nature and the possibility of building? The question is a nice one. A literal adherence to instructions may involve the architect in an effort to accomplish the impossible; moreover, the result, when completed, may be something quite unsatisfactory to the client. If the architect produce his instructions in reply to such fault finding, he is apt to be told that he should have known better. No doubt he should, but how is he to know that the client, after positively insisting on a particular line of action, had no idea of the results which would follow and really did not mean what he said? This is one of the most difficult matters the architect has to face, and it would seem that no positive rule can be laid down either way. The trouble, should it arise, rests on the client's own knowledge or lack of knowledge. It is a difficulty that can only be remedied by an increased faith on the part of the client in the architect and his ability.

THE value of lead as an architectural material was brought before an English architectural association not long since, and the speaker's hearers forcibly reminded of the great beauty and utility of this long neglected material in building. The use of lead for decorative purposes is, indeed, very ancient. Modern builders have seldom used it, although it succumbs to fire alone.

## THE HOUSE OF THE FUTURE.

HOUSES undeniably have a past, and one need be no prophet to maintain that they will have a future. The past of the house is not an interesting subject to the living present; the modern householder is not at all concerned with the sort of houses his forefathers lived in; his single interest in houses, if he has any interest in them at all, is that he shall have the best he can, and all the rest of the world may go hang.

It is an unreasonable modern view, a narrow, self-centered standpoint which does no one so much discredit as the very person putting it forth. The comforts the modern householder has, the superiority of his home to that of his father—unless he be a very young man—has been obtained only through many years of progress. The old house may have no comforts as we moderns understand them, but this very absence of comforts, this want of conveniences, has been the making of the modern house.

The advantages of the modern house may be very briefly epitomized. They may be summed up in two words, "better sanitation." The old house may have had smaller rooms, but at least they were ample for their purposes. Literally they were smaller in every sense; windows were smaller, doors were smaller, ceilings were lower, dimensions were more cramped. But no one realized this. Not to go beyond the architectural history of the United States, it is apparent that, when occasion arose, large houses, quite comparable to the large house of to-day, were built, for examples are still standing. But the average house, the house of the average citizen, was distinctly unpretentious, but quite complete and sufficient as standards were understood.

The house of to-day is, of course, a very different structure from the house of a hundred years since. In some respects it is better; in some respects it is not so good. The chances are it is not so well built. It is a positive fact that it abounds, in every part, with machine made materials, with machine made ornaments, with flimsy decorations, with cheap workmanship, and with rapid building. But all these faults, in a certain sense, are offset and covered up by the vast betterments known as improved sanitation. The cemented cellar, the water pipes, the stationary range, the permanent supply of hot water, the bathroom, all these are the gifts of modern science to the betterment of the home.

That these betterments, in their turn, are not always well used, that modern plumbing is often defective, that modern heating appliances have a remarkable ap-

titude for getting out of repair, does not lessen the general value of these appliances, nor does it diminish the general fact that the modern house has improvements, betterments, conveniences, and devices that the old house knew nothing of, and the absence of which makes the old house, with all its gentle grace of refined old age, ill suited to modern needs.

So far as artistic expression is concerned, that is an entirely different question. Here is a subject on which there is ample room for debate. The old house is almost certain to have a character and charm of its own which comes from old age and from nothing else. The newest houses, even of the most splendid art, can not compete with this. Many new houses are of unquestioned interest and beauty, but it would be a fruitless task to argue which were the more beautiful, the old houses or the new. This, at least, may be said, that the average house of to-day is certainly esthetically in advance of the average house of twenty-five years since—of forty years ago; perhaps, of even longer time. We have at least moved on from fifty years ago in the matter of design; whether we have improved on a hundred years since is clearly open for discussion.

Meanwhile it must be apparent that the modern house is but a milestone in future progress. The time is not far distant when progress in house building, in design, in equipment, and in construction, seemed at a standstill. That, happily, belongs to the past. The importance of the house as an aid to life and as a help to civilization is now universally recognized. Vast industries have grown up in household equipment; great interests are concerned with household betterment; science and art have joined hands in making the modern house a safe and beautiful structure. And if science has predominated in this work, it has been because the temperament of the age is scientific rather than esthetic.

The best of modern houses, therefore, are but steps in an evolution whose end we can not see. So persistent is house betterment that the house of to-day becomes the house of yesterday the moment its new neighbor is erected. The most prodigal expenditure is apt, in a few years, to find itself behind the times. A few years ago a mammoth hotel was built in New York at a cost never before approached. Every possible refinement of art and science was lavished upon it, and the world went agape to view it. Ten years later this modern wonder found itself without certain equipments that many less splendid and much less pretentious structures had as a matter of course.

The progress in private houses has been scarcely less marked. More and more things are added, newer devices introduced, new conveniences provided, and modern ingenuity apparently exhausted until the next house is built, when something newer still is provided. The steps of progress and of newness may not always be rapid, they may not always be needed, but they point the way to the furtherance of architectural ingenuity and the possibility of a new type of dwellings.

Some English architects have recently considered this very interesting question of the future of the house. The discussion proceeded more on the question of style than of utility, as though style had anything to do with the betterment of household living. The form and frame of the house, the style of its architecture, the expression of its nature, are quite of the smallest interest compared with the helps that science has contributed toward house betterment.

On the question of style there is much to be said. A survey of architecture for the past hundred years would show a veritable medley of styles, some having a few years' duration, some limited to the work of a single practitioner, some coming in only that they might quickly go out. Styles in houses have changed, not quite so rapidly as styles in dress, but they have changed so frequently that a comparison between the two is not wholly grotesque.

It is interesting to note that of the various persons concerned in this recent discussion only one, and he not an architect, seriously considered what the future of the modern house may actually become. This was Mr. H. G. Wells, the novelist whose prophetic stories have had so considerable a vogue. "The Twentieth-Century House," he thought, possibly, will have no chimneys (electric heating superseding the coal fire); while the shafts for the admission of air to the rooms will offer scope for the metal designer, and the emergence of the shaft on the roof will be made an architectural feature, which will also result in windows being no longer needed for ventilation, so that they may be of any shape and in any position; all corners of rooms will be rounded, and walls will be of tubing and plaster; finally the architect will be called upon to design "a wide forest of buildings in which many families may live, and which will contain a common restaurant and trattoria, a common infants' school, club apartments, and the like."

This is an interesting speculation, but hardly a pleasant one to look forward to realizing.



## TALKS ON ARCHITECTURE

BY BARR FERREE.

MR. HORACE TRUMBauer AND THE BERWIND HOUSE  
AT NEWPORT, R. I.

It is no small distinction to become architect-in-chief to the rich people of Philadelphia. The true Philadelphian will, perhaps, maintain that that is something quite different from being architect to the old families of Philadelphia. This is probably true; but against this may be set the fact that, whether new or old, it is the present rich who are doing the most to redeem the dulness of Philadelphia's aristocratic architecture, who are giving new life and variety to the staid old town, and are doing their utmost to transform it into a capital of evident activities. It is a distinction to have helped in giving visible expression to the new life of the old Quaker City, and that is, and will always be, perhaps, the chief distinction of Mr. Horace Trumbauer, architect, of Philadelphia, and the designer of some of the more pretentious houses built in and around Philadelphia within the last decade, and houses

such architectural qualities exist, and, neither knowing nor caring, are quite incapable of demanding them.

It is not, however, to Mr. Trumbauer's discredit that he has not turned out masterpieces of building; it is very much more to the point that he has built a number of splendid stately houses, sumptuous in execution, impressive in appearance, and—for the abundance of his work establishes the fact—eminently satisfactory to his clients. Although rightly classed among the "young architects" of Philadelphia, his work has already enjoyed considerable geographical distribution, and he can point with just pride to a number of stately buildings erected elsewhere than in the immediate vicinity of his own city.

The residence of E. J. Berwind, Esq., at Newport, R. I., is a case in point. Newport is nothing if not sumptuous, and that it is very gay and the resort of the very rich are facts too patent to need rehearsal in this place. Newport requires and demands wealth as its chief essential. The doings of the rich elsewhere are carefully chronicled as matters of supposedly public interest; the influence of the wealthy on the social

has given it its modern vogue; which has raised the price of its real estate to unheard of values, and which has led to the erection of some of the most pretentious of American country houses. Country houses they are, and veritable villas, buildings erected with all the conveniences, appliances, comforts, and qualifications of a city mansion, and equally well endowed with all the paraphernalia of country living. And all this great building enterprise is for pleasure. People do not visit Newport for serious work, for study, for business, but for sheer delight, for the passing of a pleasant season, and for a form of recreation that differs, in many respects, from the recreations of other seasons and places.

I know of nothing that compares so directly with Newport as Versailles in its splendor under Louis XIV. It is true, Versailles was a single palace, built by a despotic monarch for his own delight, and Newport is an aggregation of palaces, built, not by despots, but by free American citizens. But the palace of Versailles was a vast architectural background for court fêtes and festivities of all sorts. Just so the palaces of Newport are architectural backgrounds for the pleasures



THE HALL—HOUSE OF E. J. BERWIND, ESQ., NEWPORT, R. I.

built elsewhere through Philadelphia influence, precept, and advice.

It is an interesting circumstance that much, if not the larger part, of Mr. Trumbauer's work has been the building of great houses for wealthy clients. A more delightful task never fell to the lot of any architect, either in Philadelphia or elsewhere. And Mr. Trumbauer has been especially fortunate in having had commissions of the very largest size, sumptuous palaces, built, apparently, regardless of cost, environed in spacious and splendid grounds, and furnished within with all the grandeur of gorgeous furnishings. One such commission would have made the name and fortune of many an architect. What can be said of the man who has had a dozen or more such commissions?

It is quite natural that work inspired by such conditions should have a very decided quality of splendor. The architecture may not always rise to the utmost heights, as, indeed, little of modern architecture does; it may not be inspiring, suggestive, or helpful; but these are the refinements of requirements that scarce any modern architect lives up to, requirements of so high a degree that few modern clients know or care

and intellectual life of every community is well known; but in Newport alone is its presence and possession frankly required as a means of admission to the select circle which rules its social fortunes. Architecturally, therefore, Newport stands quite alone and apart from other communities in the United States.

One other characteristic needs to be mentioned, and that is the heterogeneous character of the Newport population. Every community has its own special life and character, even though these distinctions are not heavily marked. But Newport is a community of communities; it is the one place of resort of all the rich people of all the country. If New Yorkers predominate there, it is only because there are more wealthy people in New York to find recreation within its limits, and not because it is a resort for New Yorkers. Doubtless people of good breeding are the same everywhere, and Newport is, undoubtedly, a veritable well of good manners; but the fact that its inhabitants come from everywhere emphasizes the more its special character and brings out more clearly the fact that it is a community of wealth.

And it is also a community of pleasure. It is this which

and sports of its inhabitants. The scale is different, the time, the place, the manners, but the architectural meaning of both places is identical.

Thus the Newport house must be large, splendid, and expensive. It will be the scene of many expensive entertainments; it must properly set forth the wealth and social position of its owner; it must be properly environed in handsome grounds; it must be rich within and without; it must have architectural interest, and be a place worthy of comment and illustration.

Mr. Berwind's house is all of this, and in a very good way. Neither the largest nor the most costly of recent Newport palaces, it is both large and splendid and thoroughly sumptuous. The grounds, while sufficiently spacious to give the house a proper setting, are not large as grounds around great houses go. But they are entirely ample, and the architect has made the most of his opportunities by means of terraces and stairways, vases, statues, and balustrades, and a free use of shrubbery and plants. The grounds hardly constitute a formal garden, but are a very happy setting to the mansion for which they were created.

(Concluded on page 82.)





BALLROOM.



THE HALL.





THE GARDEN.



DINING-ROOM.

HOUSE OF E. J. BERWIND, ESQ., NEWPORT, R. I.—See page 69.

MR. HORACE TRUMBAUER, ARCHITECT.





— SECOND FLOOR PLAN —



— FIRST FLOOR PLAN —

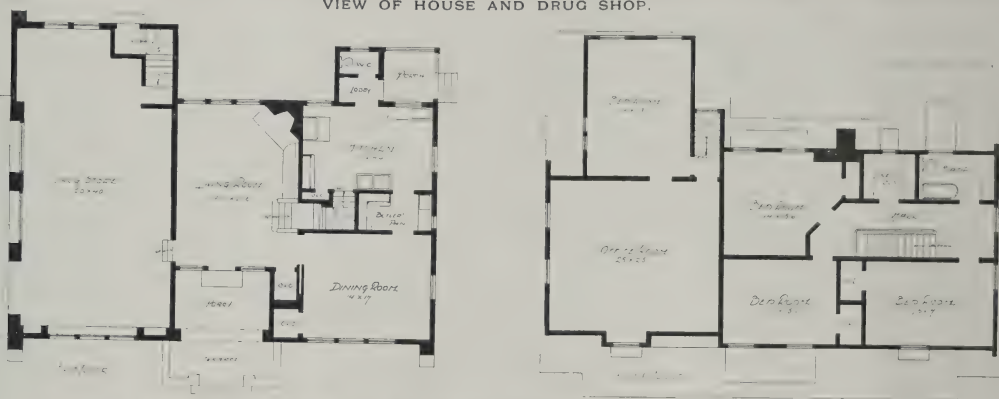
A HOUSE AT NEWARK, N. J.—See page 83.

MR. CARL F. REHMAN, ARCHITECT.





VIEW OF HOUSE AND DRUG SHOP.



VIEW OF DRUG SHOP.

A DRUG SHOP AND HOUSE AT WOODMERE, L. I.—See page 84.

MR. CHARLES BARTON KEEN, ARCHITECT.





THE COUNTRY RESIDENCE AND STABLE OF MISS AMY DURYEE, SUMMIT, N. J.—See page 83.  
MR. CHARLES ALLING GIFFORD, ARCHITECTS.

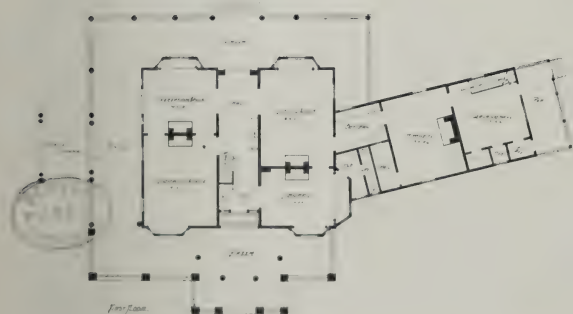




THE COUNTRY RESIDENCE AND STABLE OF MISS AMY DURYEE, SUMMIT, N. J.—See page 83.

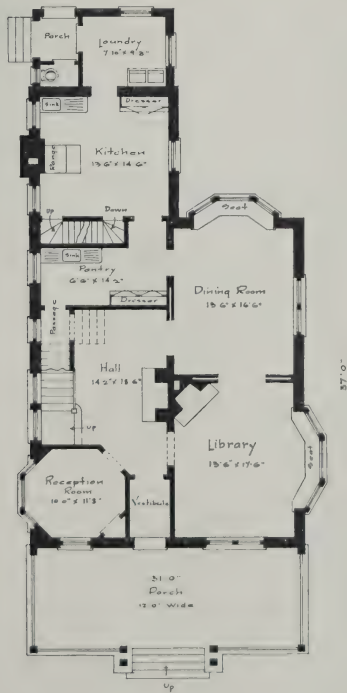
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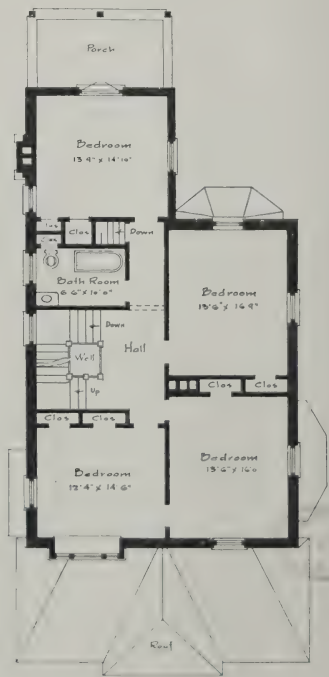


RESIDENCE OF EDWARD W. SCOTT, ESQ., ALLENHURST, N. J.—See page 82.





FIRST FLOOR PLAN



SECOND FLOOR PLAN

HOUSE OF GEORGE M. MEGARGEE, ESQ., PELHAM, PA.—See page 84.  
MR. LAURENCE VISSCHER BOYD, ARCHITECT.





"REDRUFF FARM," THE SUMMER HOME OF JAMES K. HOYT, ESQ., AT SOUND BEACH, CONN.—See page 84.  
MR. HERBERT LUCAS, ARCHITECT.





LIVING-ROOM.



DINING-ROOM.

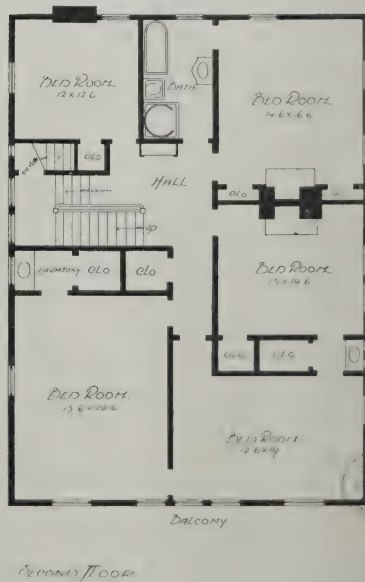
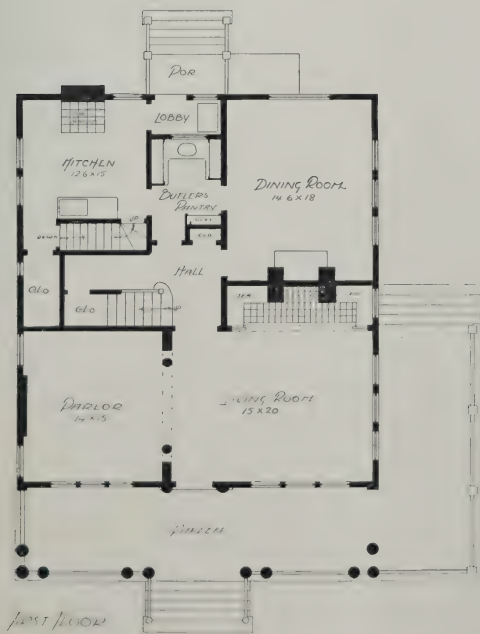
"REDRUFF FARM," THE SUMMER HOME OF JAMES K. HOYT, ESQ., AT SOUND BEACH, CONN.—See page 84.  
MR. HERBERT LUCAS, ARCHITECT.





RESIDENCE OF MRS. FLORENCE M. GRISWOLD, AT ESSEX FELS, N. J.—See page 84.  
MR. LAURENCE VISSCHER BOYD, ARCHITECT.





A JAPANESE HOUSE AND GARDEN.—See page 82.  
MESSRS. PETIT & GREEN, ARCHITECTS.



**MR. HORACE TRUMBAUER AND THE BERWIND HOUSE  
AT NEWPORT, R. I.**

(Continued from page 69.)

The house is stately, and this is more than half the battle. It is of generous size, broadly treated, the horizontal lines well marked, the windows large, the central part projected just sufficiently to mark the entrance and to emphasize it; on the whole, well conceived and well carried out. The rising ground on which it is placed adds materially to its dignity.

That the interior is ornate the exterior has already told us. No one builds a house of this design in such a place without preparing for greater sumptuousness within than may be discerned without. One naturally lavishes decorations on an interior that one refrains from exposing to the vulgar eye without. The inside of the house is, therefore, very much more splendid than the splendid outside. Broad corridors, lofty ceilings, large rooms, gilding, precious marbles, superb tapestries, rich furniture, fine paintings, costly carpets; these form and make up the contents of every great house, the individuality depending upon the taste of the owner and the architect, and the particular kind of rich possessions available for such purposes.

The chief rooms are the ballroom, the dining-room, the library, the palm room, the drawing-room, the breakfast-room, the gallery hall, and the stair hall. The stairs ascend on either side of the entrance and rise directly from the main hall, which in itself is a spacious apartment, richly decorated and richly furnished. The ballroom is a very beautiful apartment, paneled throughout, and with paintings let into the panels above the great double doors. The dining-room is one of the richest rooms in the house, with a coffered ceiling, monumental mantelpiece, decorative panels and fine paintings. It is truly a "state" dining-room, ample in size and admirably adapted to the giving of large dinners and elaborate entertainments.

It is well known that the building and furnishing of this house gave a great deal of pleasure to its owners, and that it must have done so is entirely evident to those who have visited it, and it is not less apparent from photographs of the interior. The illustrations which accompany this article afford an excellent insight into one of the most interesting houses of Newport, a house that is not only interesting in itself, but interesting as an illustration of the life of one of the most remarkable communities in America.

**A JAPANESE HOUSE AND GARDEN.**

THE Japanese house and garden which is illustrated on pages 81 and 82 has been recently erected for Dean Alvord, Esq., at Prospect Park South, Brooklyn, N. Y. The building of a Japanese house to conform with the climatic conditions of America and to the requirements of its people is a novel feat. The style, as a study of the illustrations will reveal, is carried out with the most minute detail; all of the dominant characteristics of the Japanese style of architecture being closely followed, for the delicate feeling for curved lines which are to be found in nearly every portion of the building, in the roof lines, which are the most prominent, in the contour of the brackets, in the

outlines of the columns, etc., which feature is, of course, of far greater prominence and importance than in the case of any other architectural style. Practically every portion of its curved ridge, hips, gables, eaves, and all the varying curves flow into each other, grow out of each other, until they form a whole that is light, delicate, and graceful.

The exterior of the building is stuccoed, and the upright and cross beams which form the panels, and all other woodwork, together with the stucco, is painted a dark grayish green. The roof is of galvanized iron, in the imitation of red tile of brilliant coloring. The windows throughout are of leaded glass. The interior arrangement is formed so far as is possible with the Japanese style and decoration, combined with the modern American style and its conveniences. The living-hall is trimmed with cypress stained a dark color, and it has a paneled wall and a ceiling in square form with the panels filled in with ornamental plasterwork treated with Japanese decoration. The inglenook contains a hearth of red tile, a fireplace with similar facings, and a mantel of Japanese design, with a shelf supported on caryatids rising with heads of Oriental character. This inglenook is provided with seats on either side of fireplace and nook.

The parlor is trimmed with similar wood and is separated from the living-hall by an archway supported on columns. The walls and ceilings are paneled with cypress strips, which are stained, and the wall space between is treated with a Japanese decoration. The dining-room is trimmed with birch and it has a paneled wainscoting, which is finished with a plate-rack. The wall space above this plate-rack and the ceiling is treated with a gold papered effect. The butler's pantry is fitted with dressers, bowl, and cupboard replete. The kitchen is furnished with a chimney breast with a red tiled hearth and range, a sink, dresser, store pantry, lobby large enough to admit ice-box, and a stairway to the cellar and to the second story.

The second story is finished in hazel, and it contains five bedrooms furnished with large, well fitted closets with lavatory conveniences, and a bathroom, which is furnished with porcelain fixtures and exposed nickel-plated plumbing. The walls and floor are paved with Japanese tile. The third floor contains a guest room, billiard-room, two servant bedrooms and bathroom, and a trunk room. The cellar, cemented, contains a laundry, heating apparatus, fuel rooms, and cold storage.



ENTRANCE—JAPANESE GARDEN.

The garden, which was laid out by a Japanese gardener, and which surrounds the building, forms a pleasing addition to the already attractive landscape. The serpentine walks which extend through the garden are of rough concrete, with square tiles of Japanese character, being placed at random, according to the impulsive nature of the gardener, and yet with most artistic and effective results. A wooden and bamboo gateway, with hood, forms the entrance from the main walk into the garden, which is in itself ornamented by groups of foliage and Japanese lanterns, which add much to the picturesqueness of the general whole. Messrs. Petit & Green, architects, 21 West Thirty-fourth Street, New York.

**RESIDENCE OF EDWARD W. SCOTT, ESQ.,  
ALLENHURST, N. J.**

THE residence of Edward W. Scott, Esq., at Allenhurst, on the Jersey coast, is illustrated on page 76. It occupies in ground plan a space of 50 x 125 feet, not including porches. The plan is that of the old Colonial mansion. A central hall is flanked on each side with, respectively, reception-room and drawing-room to the right, and dining-room and library to the left, and back of them the kitchen, butler's pantry, servants' dining-room, etc.

The second and third floors contain ten commodious sleeping rooms with connecting baths. A large morning-room is well arranged on the main front of the second floor. Ample rooms for the servants are located on the rear of the third floor and entirely separated from the main front.

The first requirement of a seashore residence is plenty of porch room, and this Mr. Scott has obtained by carrying entirely around the three sides of the house a porch fourteen feet wide, with certain portions so arranged that in autumn they can be utilized as sun parlors. The proportions of the building are exceedingly good. The north shows a two-story colonnade in semicircular form, with entablatures and railings. The caps are rich in ornament, while bays of simple but classic character flank this central feature.

The east and west fronts are somewhat similar to the north, having two-story colonnades, with roofs, balustrades, etc. These colonnades on the second floor form desirable porches, thoroughly protected from the weather. One of these second floor colonnades on the south front connects by means of French windows with the family sitting-room, affording a fine ocean view.

The building is constructed of wood with brick filling, the various details being beautifully arranged. A deep cornice of good proportions surmounts the house and continues entirely around it. The roof is slightly Mansard, and its extreme top is again surmounted and enclosed by a balustrade, from which vantage point a magnificent view of the Atlantic Ocean can be obtained. The exterior is painted a soft yellow, all moulded and ornamental work being picked out in ivory white. Large posts of yellow white brick, surmounted by very handsome electric lanterns, bound the sides of each entrance to the beautiful grounds; the whole arranged so cleverly that almost the entire premises can be illuminated at night by the mere turn of an electric switch.

Entering the main hall, the old Colonial again presents itself in all its simple beauty. A low wainscot extends entirely around the hall, on which rests fluted pilasters surmounted by an entablature of classic detail, the length of the ceiling being broken by ma-



A JAPANESE GARDEN.



hogany beams of simple pattern. The floor is of hard wood. The stairway is white, the rail and newels being in mahogany. The entrance doors at either end are Colonial in design, with leaded glass. All the rooms are cheerful and harmonious in design. The butler's pantry, kitchen, servants' hall, pantries, etc., are fitted with all the best modern conveniences. The bedrooms are treated with harmonious effects. The cemented cellar contains the laundry, heating apparatus, etc. The reception-room is treated with a moss green effect, and it has an ornamental leaded glass window, 8 x 10 feet, facing the ocean, which is quite the feature of this room. The open fireplace is fitted with tiled facings and hearth, and a mantel of Colonial style. The drawing-room is separated from the reception-room by archways, and it is treated with Colonial effects. It has a similar fireplace in the reception-room. The library is provided with an open fireplace and two bay-windows, which are separated by arches supported on columns of Colonial design. The walls are treated in a deep, rich red. The dining-room is treated in delft blue and white, and it has a similar bay window treatment and fireplace.

hall is treated in a similar manner, and it has a low, paneled wainscoting and bookcases built in, and an open fireplace with red tiled facings and hearth and a mantel with Colonial columns supporting a massive hood. The dining-room is treated with white enamel and it has a paneled wainscoting and a fireplace built of Tiffany brick, with facings and a hearth of the same and a mantelshelf. The butler's pantry is fitted up with sink, dressers and closets. The kitchen and its dependencies are trimmed with North Carolina pine, and each is fitted with all the best modern improvements. The servants' porch is a pleasant feature of the house.

The second floor is treated with white enamel, and it contains four bedrooms, two bathrooms, and linen closet. Each bedroom is furnished with well fitted closets, and two of the bedrooms have open fireplaces. The bathrooms are trimmed with ash, and each is fitted with porcelain fixtures and exposed nickelplated plumbing. The third floor contains three servant bedrooms and bath, and a trunk room. The cemented cellar contains the laundry, heating apparatus, and fuel rooms.

#### A HOUSE AT NEWARK, N. J.

The house which is illustrated on page 72 has been built for Mr. Carl F. Rehman, at Mount Prospect Avenue, Newark, N. J. The main idea has evidently been inspired by a love for the old Dutch homesteads, of which there are many fine examples in New Jersey, and which certainly have the earliest and fullest right to be classed as Colonial. The brick terrace, with its wall on the east front, seems an excellent way of freeing the building from the usual covered piazza and of gaining all the comfort that the piazza affords. The little wooden seats by the door and the one on the rear porch provide an attractive feature. The front elevation has been kept as low as possible, and has the good general proportions and the delightful simplicity of the old Colonial house. The small panes of glass in the sashes, the moons in the heavy white shutters, and the heavy door knocker, carry out the idea of this particular style. The rear has been as carefully planned as the front, and it is remarkable how little care is often given to the planning of rear elevations. The one thought in general is that the rear should express the sentiment of the kitchen, and that any



A RECEPTION-ROOM.

#### THE COUNTRY RESIDENCE AND STABLE OF MISS AMY DURYEE, AT SUMMIT, N. J.

The illustrations on pages 74 and 75 present the country residence and stable of Miss Amy Duryee, at Summit, N. J. The underpinning is built of rock-faced stone laid up at random. The superstructure, from the underpinning to the second story windows, is built of a repressed Jersey brick, with black headers, and is laid in Flemish bond; the remainder of the building is covered with a rough cast treated with an ivory white color. The trimmings are painted ivory white. The roof is covered with shingles and is treated with Venetian red. Dimensions: Front, 47 ft.; side, 32 ft., exclusive of porch and piazza. Height of ceilings: Cellar, 7 ft. 6 in.; first story, 10 ft.; second, 9 ft.; third, 8 ft.

The entrance is into a square hall, which is trimmed with white pine treated with white enamel. The reception and staircase halls are practically one, except that they are separated one from the other by an archway supported on Colonial columns. The staircase is paneled and it has oak treads, white enameled balusters and newel posts, and a mahogany rail. The living-

*The Stable.*—The stable is built in harmony with the house, and the entire exterior of the building is coated with plaster stucco. The trimmings are painted white. The roof is covered with shingles and is stained a Venetian red. The interior throughout the first story is ceiled with narrow beaded stuff and finished natural. The floor is of cement concrete, and the carriage-room has a carriage wash connected with a drain, and a harness closet provided with harness cases with sliding glass doors.

The stable has a cement floor, and it contains two box stalls and one single stall fitted with the usual ornamental iron fittings and fixtures. A stairway leads from the carriage room to the second story, which contains two bedrooms and ample space for the storage of hay, feed, etc. Mr. Charles Alling Gifford, architect, 18 East Seventeenth Street, New York.

#### A RECEPTION-ROOM.

The illustration shown above affords a glimpse into the reception-room of a house designed by Mr. Frank A. Moore, architect, Windsor Arcade, Fifth Avenue and Forty-seventh Street, New York.

amount of peculiar outjuttings is permissible. "If you want to see me respectable and dressed up, come round to the front," most houses say to the houses behind them. The garden front should in reality be as well treated as the street front. It pays, for it adds greatly, especially in suburban sections, to the general refinement of the neighborhood.

The interior of the house is a surprise in its large sized rooms. One enters a little anteroom and from that the general living room, which is thirty-eight feet wide and twenty feet deep, and has two good sized nooks, one for lounging seats and one for the desk table and reading lamp. The wood is oak of broad grain, stained a dark brown, and the walls are covered with green burlap, with the ceiling of a golden brown. The dining-room is decorated like the living-room and is connected with it by large sliding doors. The burlap of the anteroom is the same golden brown of the living-room ceiling. On the second floor the unity of the lower floor is offset by disconnected rooms, each in a different color, one red, one blue, one yellow, and one green. The rooms are all large and airy. The wardrobes and closets are fitted up in the most modern



fashion. There are two bathrooms. The woodwork is in natural oak or in white enamel paint. The whole house is very carefully and thoughtfully planned, and as a result there is no waste space. Cost, \$7,600 complete. Mr. Carl F. Rehman, architect, 756 Broad Street, Newark, N. J.

#### HOUSE OF GEORGE M. MEGARGE, ESQ., PELHAM, PA.

On page 77 will be found an illustration of a house built for George M. Megarge, Esq., at Pelham, Pa. The building is an adaptation of the English half-timber style. The underpinning and the first story are built of Sayre & Fisher brick of a soft, warm color, laid up in red mortar. The remainder of the building, including the gables, is paneled with rough yellow pine and stained a dark shade of umber. These panels are filled in with rough plaster cast. The main roof and porch roofs are covered with cypress shingles and stained red. The trimmings are painted ivory white. Dimensions: Front, 35 ft.; side, 60 ft., exclusive of piazza. Height of ceilings: Cellar, 7 ft.; first story, 9 ft. 6 in.; second, 9 ft.; third, 8 ft. 6 in.

A special feature of this house is the commodious living-hall with its beamed ceiling, its large open fireplace of Pompeian brick, and the ornamental staircase with leaded glass windows at the side. This hall, from the first story to the third story, is trimmed with selected oak and is finished antique. The small reception-room is trimmed with pine and is treated with white enamel gloss. The library is trimmed with birch and finished in mahogany. It has a bay window with seat and an open fireplace furnished with tiled facings and hearth and a mantel. The dining-room is trimmed with selected oak, finished antique, and it has a paneled wainscoting, and a bay window with seat. The butler's pantry is fitted with drawers, shelves, dresser, and sink complete. The kitchen is trimmed with yellow pine and contains all the best modern conveniences. The laundry is also trimmed in a similar manner, and is fitted up complete.

The second floor contains four bedrooms and a bathroom. Three of the bedrooms are trimmed and finished in chestnut and are in white enamel. The bathroom has a tiled floor and wainscoting 4 feet 6 inches in height, and is provided with porcelain fixtures and exposed nickelplated plumbing. The third floor contains two servants' bedrooms and bath, and also one large room suitable for a billiard-room. A cemented cellar contains fuel rooms, cold storage, etc. The house is heated by a central plant. Mr. Laurence Visscher Boyd, architect, Harrison Building, Philadelphia, Pa.

#### A DRUG SHOP AND HOUSE AT WOODMERE, L. I.

On page 73 will be found an illustration of a drug shop and house built for Mr. William Wisendanger, at Woodmere, L. I., by the Woodmere Land Association, of which Mr. R. L. Burton is the owner. This combination for a drug shop and a house together is a most interesting and satisfactory solution of a long felt want for suburban uses, and Mr. Burton has very successfully demonstrated this problem by the construction of an attractive building, as the illustrations show.

The underpinning and the first story up to the first story windows are built of brick, black headers, laid in Flemish bond. The remainder of the building is covered with stucco. The trimmings and all woodwork are of chestnut stained brown. The roof is covered with shingles and is stained a Venetian red. The drug store is trimmed and fitted up with oak, and the windows and doors are of plate glass. A private stairway from the exterior leads to the physician's offices, which are placed over the drug store, and consist of one large and one small room.

The living quarters, which are entered from the street, are trimmed with chestnut and are finished in a dark, soft brown color. The living-room has an open fireplace built of black header brick, with the facings and a hearth of the same, and a mantel shelf, and it

has also a paneled seat at one side of the fireplace. The semi-boxed stairway rises from this living-room to the second floor. The dining-room is well ventilated, and it has a plate-rack five feet from the floor and extending around the room. The kitchen and its dependencies are fitted with all the best modern conveniences.

The second floor is also trimmed with chestnut, and it contains three bedrooms, a large linen closet, and bathroom; the latter is provided with porcelain fixtures and exposed nickelplated plumbing.

There is a cemented cellar under the entire building, which is divided into two parts, one for the shop and one for the house. Each has a heating apparatus, fuel rooms, and storage space. Mr. Charles Barton Keen, architect, 1604 Chestnut Street, Philadelphia, Pa.

#### "REDRUFF FARM," THE SUMMER HOME OF JAMES K. HOYT, ESQ., AT SOUND BEACH, CONN.

On pages 78 and 79 will be found illustrations of "Redruff Farm," the summer home of James K. Hoyt,

either side of room, with glass doors. The butler's pantry is fitted with drawers, dressers, cupboards, and sink. The kitchen and laundry are trimmed with yellow pine, and each is fitted with ample closet room and all the best modern conveniences.

The second story is also treated with white enamel, and contains five bedrooms and two bathrooms, besides two servants' bedrooms, which have a private stairway to the kitchen. The bathrooms have tiled wainscoting and are furnished with porcelain fixtures and exposed nickelplated plumbing. The third floor contains ample storage space. The cellar, cemented, contains a hot air furnace, fuel room, and storage. Mr. Herbert Lucas, architect, St. James Building, 1133 Broadway, New York.

#### RESIDENCE OF MRS. FLORENCE M. GRISWOLD, AT ESSEX FELLS, N. J.

The residence illustrated on page 80 has been erected for Mrs. Florence M. Griswold, at Essex Fells, N. J. It is built in the rambling order. The underpinning

and the first story are built of rock faced stone laid with broad white joints. The second and third stories are part in stucco work and in shingles; the former is tinted a cream color, while the beams are stained a soft brown color in harmony, and the shingles a red color. The roof is covered with shingles and is stained with a dull moss green effect. Dimensions: Front, 105 ft.; side, 64 ft. Height of ceilings: Cellar, 7 ft.; first story, 9 ft. 6 in.; second, 8 ft. 6 in.; third, 8 ft.

The hall, a central one, is trimmed with oak, and it contains an ornamental staircase turned out of similar wood. The reception-room and parlor are trimmed with oak, and the latter is furnished with an open fireplace with tiled facings and hearth and a mantel. The ceiling of this room is carried up with the peak, and both the walls and ceiling are coated with a stucco plaster, which is pebble-dashed and tinted a cream yellow. The library is trimmed with oak and it has a paneled wainscoting and a beamed ceiling, and it also contains an open fireplace built of rock-faced field stone, with a hearth of the same and a similar facing rising to the ceiling and finished with a rough hewn stone shelf supported on corbeled brackets. The dining-room is also trimmed with oak, and it has a bay window, and a plate rack at the height of seven feet. The butler's pantry is fitted with drawers, dressers, sink, etc., complete. The kitchen and laundry, both of large dimensions, are fitted with all the best modern conveniences.

The second floor is trimmed with white pine, treated with white enamel, and it contains a

A STAIRCASE—RESIDENCE OF HENRY BLISS, ESQ.



Esq., at Sound Beach, Conn. The underpinning and chimneys are built of field stone laid up at random. The remainder of the house is covered on the exterior framework with matched sheathing, and then shingles, which are left to weather finish naturally, the trimmings and blinds being painted a dark red. The roof is covered with shingles. Dimensions: Front, 34 ft. 9 in.; side, 57 ft. 6 in., not including piazza and porch. Height of ceilings: Cellar, 7 ft.; first story, 10 ft.; second, 9 ft.; third, 8 ft.

The plan is arranged with the idea of having one large living-room, a dining-room separated from the living-room, and provided with the usual kitchen and its dependencies, while the sleeping quarters are provided on the second floor. The living-room is treated with white enamel and it has a wainscoting to the height of six feet, above which the walls are covered with crimson burlap. The ceiling is beamed and cross beamed, and the spaces between are tinted a Colonial yellow. The staircase is a broad, spacious one with oak treads, white enamel balusters and newels, and a mahogany rail. The large open fireplace is built in an attractive manner. Two fluted Ionic columns form an attractive feature of this room.

The dining-room is also treated with white enamel and has a high wainscoting, which is finished with a plate-rack, and an open fireplace, which is built of fieldstone. There are also two china closets built in

large open hall, six bedrooms, large linen closet, and two bathrooms; the latter are wainscoted with white enameled tile, with blue tile cap, and they have a floor paved with tiled mosaic, and contain porcelain fixtures, with exposed nickel plumbing. The third floor contains three bedrooms and a bathroom trimmed with white pine finished natural. The cellar contains the heating apparatus, fuel rooms, etc. This house was built by Messrs. Wendell & Treat, of Essex Fells, N. J. Mr. Laurence Visscher Boyd, architect, Harrison Building, Philadelphia, Pa.

#### A STAIRCASE.

The illustration given above shows the staircase in the residence of Henry Bliss, Esq., Chestnut Hill, Mass. Mr. H. S. Frazer, 84 Exchange Place, Boston, Mass., was the architect of the house.

#### A CORRECTION.

It is due Mr. Charles A. Platt, the architect of the grounds of Mrs. Charles F. Sprague, illustrated in the BUILDING MONTHLY for March, to make clear the fact that Messrs. Little & Brown were the architects of the house and foreclosed alone, while he was the architect and designer of all the other architectural embellishments of the garden and surroundings. Several of our illustrations unwittingly credited some of Mr. Platt's work to the other architects.





## The Household

### HOUSECLEANING.

THE last week of March or the beginning of April, says a recent writer, is the time usually chosen by country housekeepers for housecleaning.

A neat housekeeper likes to have her stoves out of the way when housecleaning is done, but in very cold seasons it is impossible to do away with them before the end of May, while in warm seasons they are often superfluous in March. Spring housecleaning, therefore, must be divided into sections. The birds, especially the flycatchers, which usually come in March, ought to decide the time for the disinfection of the house and the annual war against insect pests which hatch out indoors and outdoors at about this season.

Science states that fitting moths and impure germs of every kind appear as early as March, when the robin and bluebird come from the South to rid the trees of grubs, and the industrious woodpecker fights vigorously against the same enemy of mankind and of fruit trees. The housewife must attack the moth in March or very early in April before it has hatched out of the egg and begun its work.

In sections of the country where the buffalo moth has set up a habitat for itself, carpets, rugs, and woolen clothes should be cleaned and the premises made ready for summer as early as this season. It is an unpleasant thought that in steam-heated houses, where the temperature is uniform, the buffalo moth leads a continual existence, emerging from its grub state in any month of the year, instead of waiting until the warm sun of the vernal season. The battle with the buffalo moth under some circumstances is well-nigh a hopeless one. When this creature first came a well-known entomologist of the State recommended that its habitats be saturated with benzine after carpets, rugs, and clothing, which it had attacked, had been well beaten. Its ways are ways of darkness, and the creature avoids the light, therefore dark corners of closets and wardrobes should be carefully searched and cleaned as early in March as it is practicable to do so. Good housekeepers drive away the buffalo moths by making the premises unpleasant for them. Camphor, pepper, tobacco, and various other articles will accomplish this purpose, but nothing but benzine poured on them will actually annihilate them. This insect has a curious passion for the red parts of the rug, and will eat out this color and leave the rest, especially if it is on the edge of the border.

### COLOR AND HEALTH.

JUST as light caused us to feel cheerful and warmth made us feel comfortable, so, says an English writer, it will be found that color in soft graduated tones had an immense effect on our well being. Staring, garish, inharmonious tints must have a somewhat similar effect through the eye on the brain as loud cacophonous sounds have through the ear. Wall paper should be selected with due regard to the aspect of the room, and the value of sunshine is particularly to be insisted on. Huge blocks of artisans' dwellings should not be multiplied in the heart of our great cities. The object should be to get the workers away from their work when it is finished, by increasing the facilities for quick and cheap transit. With the startling development of electric traction the time was not far distant when it would be the exception and not the rule for the workers to live in close proximity to their work, when this was performed in crowded areas.

### AN ENGLISH DECORATIVE CLOTH.

A new decorative cloth has been lately introduced in England. The canvases of coarse texture used hitherto served well on the walls of large halls or staircases, but for spaces of a more confined area a texture of a different kind is desirable. This is met by the new crush and buckram cloths. They all have that manifestation of being a woven fabric, which is not to be imitated in paper. At the same time the surface is sufficiently smooth to prevent the accumulation of dust, which is one of the drawbacks of a coarser material. An immense variety of agreeable colors is available, and the artist and decorator can, therefore, obtain any kind of ground which he may seek in order to apply stenciling or other decoration. For ceilings and places where a colored ground is unnecessary there is a white buckram. It should be noted that the colors are not dyed. Pigment colors are employed, and the cloth itself is consequently suitable for covering walls. The hanging is not difficult, and the cloths are supplied in rolls. A thicker paste than is used in papering is sufficient.



## The Houseboat

### A MISSISSIPPI HOUSEBOAT.

THE New York Sun publishes an account of a Mississippi houseboat from which the following excerpts are taken:

Instead of pulling the Idler along by means of a cable, the Wanderer pushes the houseboat in front of it. The stern of the Idler is fitted to the bow of the Wanderer, and the two boats are held together by heavy chains, so that they steer as one craft.

The Idler is 120 feet long and 20 feet beam. Her lower deck contains all the cabins, staterooms, etc., of the vessel.

The advantages of not having the motive power on the houseboat are many. There is a total absence of the throbbing and jarring of machinery. There is no heat, no smoke, no smell, and no room is taken by the engines which might be put to other use.

The main deck is entirely surrounded by light but strong iron guards. A great plate glass window fills the bow end of the enclosed deck, and is flanked by two doors. These lead into the saloon, a luxuriously furnished apartment, 16 by 22 feet. It is entirely finished in polished woods. Besides the large bow window there are twelve others. Writing desk, piano, tables, chairs, divans, books, pictures—all the accessories of a comfortable and up-to-date home are here. Electric lights make it brilliant at night, and steam heat enables the happy voyager on the Idler to snap his fingers at storms or cold weather. Every door, window, and transom on the boat is carefully screened. From the saloon a long narrow passage leads through the center of the boat, and from this open the six staterooms. Each of these is 6½ by 11 feet. Each has a lower berth of the size of an ordinary bed, while above is a berth of the width of a single bed.

Each room has three windows and six large transoms, electric lights, porcelain basin with hot and cold water, steam heat, a large dressing-bureau, a wardrobe, and one chair. Each room is completely furnished in its color; red, yellow, blue, green, pink, lavender; the color scheme is complete, even to the candlestick and the candle. The passage flanked by the staterooms ends in the dining-room, a beautiful apartment 10 by 16 feet in size, with corner cupboards, where the boat's own special glass and china gleam behind the leaded panes. Back of the dining-room is a cross hall opening at each end onto the outer gangway, giving air and preventing any heat or odors from the kitchen or the electric light plant from invading the forward part of the boat. A drop table here is raised to be used as a serving-table at meal times. At the other end of this hall is a recess for the water cooler, and conveniently near by is the lemon squeezer, the ice shaver, the shaker, etc.

Beyond the cross hall on the starboard side is the aft gangway leading to the upper deck. Next comes the kitchen. Behind the kitchen is the cold storage room, next the ice house, then the men's bathroom, next the laundry, and finally the servants' bath. On the larboard side, beginning at the cross hall, are, first, a bathroom, then the electric light plant, then the servants' rooms. There are two gangways leading to the upper deck, which is entirely open at the sides, although canvas curtains may be dropped so as to shut it in, either in part or entirely. A latticework screen divides this deck, but the forward portion is a clear ninety feet in length.

Here are hammocks, great swinging leather cushioned settees with high backs, an army of lounging chairs, rugs, cushions—all the gay paraphernalia of summer loafing. The deck has its own complement of electric lights, as well as a powerful searchlight.

Back of the lattice are three water tanks; one, with a capacity of 250 gallons, carries artesian water for drinking. The other two take the river water for all other purposes. On the hurricane deck, above this one, are four clinker-built boats for use in fishing expeditions or in case of accident.

The hold of the Idler is divided into coal cellar, storeroom, and wine cellar.

The Wanderer is 100 feet in length and has a 20-foot beam. It is as white as the Idler, and is by no means an unworthy Cinderella to go along with its lady-of-leisure sister craft.

The lower deck is enclosed. Here are the boiler and engines, the latter 10-inch bore and 6-foot stroke. On the saloon deck are two dining-rooms, eight staterooms, a bath, and the kitchen. Occasionally, when there is too large a party to be accommodated on the Idler, some of the men are berthed on the Wanderer.

The success of this boat has been very great. It is a distinctive type, suited to Western waters.



## The Garden

### THE JOY OF GARDENING.

IT is the joy of gardening that it brings its own reward, which, in the larger number of cases, is sure and certain. Granted it is hard work if one must potter around the flower beds oneself, but even that is a joy if the garden is not too large and too much is not planned. One should not be discouraged because one's space and one's resources are small. A few plants are better than none at all every time.

### SOWING ANNUAL SEEDS.

THE sowing of annuals, says an exchange, is best done during April, the harder ones earlier in the month and the more delicate ones later. The soil should be deeply worked by digging a good spit deep in autumn if the land be heavy, or in the early spring if it be light. For light land enrichment should be provided in the shape of cow, pig, or peat moss litter manure, placed in a thick layer eight inches to a foot below the surface; that is to say, at the bottom of the spit. For heavy and clay soils well decayed horse manure is best. It is well also to lighten clay land by digging in road grit, cinder ashes, and other materials calculated to render the soil open and porous. No manure should be incorporated with the surface soil. The seed is furnished with sufficient nourishment for the earliest small rootlets, which make their first growth best in soil fine and sandy, with some powdery leaf mold intermixed. To stimulate strong after-growth, the surface can be top-dressed to advantage when the shoots, showing through the soil, tell that a network of fine roots has been formed below. Then a little complete artificial manure intermingled in with a compost of fine earth or cocoa fiber refuse, spent tanners' bark, or other suitable materials, mixed with a little gypsum, may be given with advantage as a surface mulching.

After the soil has been prepared, and the surface evenly raked over, the seed should be sown very thinly in masses or groups to get the best effects with the flowers. The method of sowing in rows is only permissible in the case of dwarf annuals for bordering. A convenient method of forming a "drill" to receive seeds is to make a circular ring with an inverted large flower pot lightly pressed and turned half round and back again. In this "drill" the seeds should be very sparingly sown and lightly covered over. The center of the circle should be labeled with the name of the plant before filling in the "drill" with soil. Thinning can be performed easily in the case of such a ring of seedlings, and should be done very early.

### PLANTS FOR A CITY GARDEN.

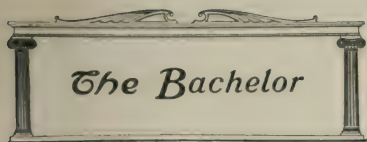
WHERE there is enough of sunlight plant hardy pinks. The Chinese and Japanese varieties of this flower, although without fragrance, are so rich in coloring as to make them highly desirable. The Chabaud carnations and C. Marguerite are of beautiful colors and rich fragrance.

But the sunny garden has such a wide range of choice that it is well to turn and give to the shady garden a helping hand. Perhaps there is one in which no ray of sunlight ever strikes the ground. In such a one the chief dependence must be placed on ferns. Then there are among perennials the Campanula carpatia, with either blue or white flowers, C. rotundifolia, blooming in August, columbines in many varieties, Dicentra spectabilis (wrongly called "Dielytra" by florists), and D. eximia, the latter having the longer blooming period. There are the "monkshoods," some varieties of which may be had blooming through the entire summer, but they are poisonous, and should not be planted where there are children. In the spring there are lilies of the valley and Phlox divaricata, while later on there are Phlox maculata and Cyclamen Europaeum. Ajuga genevensis and A. reptans rubra are also good spring bloomers for shady places. Of low growing plants there are daisies (Bellis perennis). Armenia maritima, Cerastium tomentosum, whose silvery foliage makes a lovely edging for the border, Asperula odorata and Myosotis.

The chief glory of the shady garden must be the terrestrial orchids. Among the most desirable for shaded situations are Cypripedium acaule, rose-colored flowers; C. pubescens, yellow; C. spectabile, rose-purple or nearly white; Goodyera pubescens, white, and Habenaria psychodes, rose-purple and fragrant.—Exchange.

FORMALITY and artificiality in the making of bouquets are fatal to artistic work, because they are the opposites of simplicity and naturalness.





## The Bachelor

### THE BACHELOR HOME.

AND why not? If not a sign of the times, the bachelor home is certainly something which exists, which appeals to many people, and which has some definite characteristics of its own. These characteristics are, perhaps, less well marked than is generally imagined. The abiding place of the bachelor girl need not differ widely from the abiding place of a group of women, and there always have been such homes, and doubtless always will be. But the bachelor girl is more with us to-day than she ever has been; her wants are anticipated to a larger extent; she insists, not only on her womanliness, but on her bachelorhood.

THE BUILDING MONTHLY has, for some time past, been gathering material which may help to make bachelor life more comfortable so far as descriptions of such homes may throw light on the subject. We have no wish to further that state of life: that is a personal matter which concerns the individual only. We maintain no marriage bureau, and we hold no brief for the bachelor, man or maid. But bachelor homes have an interest to many people, and descriptions of them have thus a proper place in these pages. This month the ladies; another time, the men.

### THE BACHELOR MAID.

THERE never yet was a bachelor woman's flat, says a daily paper, that could not furnish a helpful hint in interior decoration, and one recently fitted up is so pretty, yet simple, that it is worth a description.

The apartment is "L" shaped, with the main living-room at the angle, one fair sized room at each end, and a bathroom at the back. The paper is a restful grayish brown, most unobtrusive and a fine background for almost any picture, and most effective with the old ivory tinted door and window frames. The ceiling is also done in the ivory tint, which is allowed to continue down the walls for about eighteen inches, to meet the picture moldings.

About ten inches below the picture molding a narrow wooden shelf has been fastened in the wall. It is nearly six feet long, to span the space over the fireplace, and is made of grained oak, stained dark green. On this shelf are several pieces of copper and brass—bowls, pitchers, etc., each one of which catches the light and reflects a brilliant note.

On the side of the room opposite the fireplace a wide, low couch is most inviting. Made from an inexpensive wooden cot, with springs, the legs of which are sawed off, it stands about fifteen inches from the floor, including the thickness of the denim covered mattress. At each end a wide wooden arm, made in the same green effect as the shelves, the combined effort of the owner and the carpenter, forms a convenient transient resting place for the teacups of the people occupying the spacious corners of the couch. A bagdad in old French blue and dull green serves as a couch cover, and there are about a dozen pillows, covered in old tapestry effects.

The chairs in the room are of varied patterns, and mostly dark in color, ranging from a large, squarely built black oak armchair to a little green Indian camp stool at the side of the fireplace.

A useful piece of furniture is a combination seat and set of bookshelves. The seat is about as high as a steamer trunk, and as deep, and three and one-half feet wide; wooden sides, curving back gracefully from the front edge, run up to a height of about nine feet, forming the inclosing ends of the bookshelves, which begin about five feet from the floor. Several cushions are piled in the seat, and all the visible woodwork is of the same color as the arms of the couch.

The oak floor of the apartment, kept highly polished, is decorated with two rugs in dull Persian colors. Two gray foxes, shot by a friend, complete the floor covering. The bay window at the end of the room is hung with dainty washable curtains, a white swiss with pale orange stripes. The pictures on the walls consist of three or four good photographs of masters, effectively framed in dark wood, the Mona Lisa, a Rembrandt, a Corot. In happy contrast there are also a few bright colored sketches in pastel and water color, mostly local landscape and the work of friends.

At the hour that seems characteristic of this cozy spot—late afternoon—the charming details are harmonized by the light from a "real" log fire, that terrible modern travesty, the gas log, having been banished. As the evening comes on, candles are lighted; not ordinary candles, but a unique product known as "bayberry candles." They are made by an old resident in the country in Long Island.



## Stable Lore

### A LARGE PRIVATE STABLE IN BROOKLYN.

THE building of private stables, of large and frequently ornamental construction, has increased of late in our large cities. One of the most complete of recent stables is that of Herbert Lee Pratt, Esq., of Brooklyn. The following description is taken from the Brooklyn Daily Eagle:

The exterior is simple, in its two story front of brick of a deep red mottled brown with white stone trimmings. The coach house proper, reached through the carriage door or the livery room, is big and broad. Its ceiling is of iron girders, though there is but one story above, thus permitting a single ceiling and giving the building additional security in case of fire. One panel between the girders is an elevator for raising feed in bulk to the big storeroom overhead, an elevator, however, that when not in use becomes a part of the ceiling. The radiators are swung up high on the walls, within a few feet of the ceiling that they may not be in the way of carriages on the floor.

On this stable's floor there is space for six equipages of the largest size, with room for an ample driveway between the two rows. The walls of the carriage house proper have been kept plain and unadorned. The big room's sole ornament as background for the blue and black panels, with their trimmings of French gray of the rows of coach and traps, is the cases for harness in ash and glass that extend across the rear wall, broken only by the door to the stable itself. There is no separate harness room.

A cool, agreeable yellow and white is the effect of this coach house in front. The girders of its ceiling are in yellow, with panels of ash. For a height of perhaps eight feet up, the walls are of white enameled brick, this extending on both sides to the harness cases at the rear. Above the white enamel there is a dull brick of yellow brown, reaching to the ceiling.

Six equipages stand in the coach house for the start off, five horses in the stable beyond. These vehicles include, beside the famous coach, a single horse brougham, a vis-à-vis, a cabriolet, a hansom. Against the white and yellow these black and rich blue panels stand out effectively and vividly, accentuated by the sand floor covering here, which is one of the most remarkable ever laid down in patterns in a coach house.

Floor designs in sand have come to be one of the chief features of a modern stable. They give the carriage floor a trimness, an effect of color and artistic neatness obtainable in no other way. The vehicles rest on this thin carpet of sand, which is bordered and decorated in colored sands by stencils according to the coachman's taste and ability. It is in these days part of a coachman's profession to know how to put together an effective sand floor.

The coach house floor is, of course, of concrete. The vehicles stand upon it in two rows, as has been said, with a driveway in between. Each of these big squares the coachman has treated elaborately and pictorially.

Not the least thing about this stable and its carriage house are its little niceties of detail. The livery room and its entire second floor are cases in point. When the carriage doors are closed, entrance to the stable is through the former. This is a narrow apartment, hardly more than a passageway in space, finished in ash, yet it is fitted up finely. Along one side are the clothes presses, with glass door, holding the livery of the establishment—dark blue, with silver buttons. On the other side is a mirror above a folding table.

Where the door from the street opens into the livery room is a flight of stairs leading to the rooms above and the feed loft back of them.

There are three good-sized rooms, running across the building's front, each with two windows, sunny and bright. There is a vast difference here in cheerfulness from the average city apartment, with its dark center rooms. The middle room is the parlor. On one side of this is a kitchen, on the other a bedroom.

The parlor is a dining-room as well, for it has a sideboard in it. In the bedroom, besides a dresser, there is a brass bedstead. An easy-to-work cooking stove is in the kitchen, and surrounding the windows here are pantry cupboards built into the wall high and picturesquely. There is good furniture, comfortable chairs and sofas, attractive wall paperings.

From this hallway to the coachman's rooms another leads at right angles back along this second floor. To its left is a bathroom and three bedrooms, one now held by the coachman as a spare room, another occupied by one of the grooms. To the right of this hallway is the feed loft, shut off very securely.



## Furnishings

### A BEDROOM IN WILLOW.

GREEN, SAYS AN exchange, is the color usually to be found in bedrooms furnished in willow. There will be in addition to the bedstead a pretty desk, and there are many designs from which to choose, some with shelves for books and small drawers at the back, and others with a plain desk top and drawers beneath. There are dressing-tables with strong willow-covered posts supporting the mirrors, and with several drawers beneath the table; there are also couches in several designs, and easy chairs, simple desk and dressing-table chairs, and one or more small stands or tables.

If one must have carpets, remarks a writer in Good Housekeeping, let them be tacked down at intervals of not less than six inches, and with long tacks driven in only a short distance. Or, better still, have the carpets fitted with brass eyes to drop over nails set permanently in the floor. Then, with some moving of furniture, the carpet can be cleaned frequently in the open air; better yet, have the carpet fill only the central part of the room, showing the bare floor for say one and one-half feet near the walls. This means less furniture to move at cleaning time, and, therefore, more frequent cleanings.

In making over a carpet that originally fitted the entire room, usually enough good pieces can be secured to make a presentable covering, when allowance is made for this bare floor around the walls. The floor can be painted, if in bad condition, or, what is better, lay a parquet wood border to meet the line of the carpet.

The modern steam cleaning of carpets is not so good as that of older days, as the airing is desirable. In cleaning a carpet it should be laid on the grass, face down, and then well beaten from the back. This causes the dirt to drop out of the loops where it is so deeply embedded. Brushing the surface with a broom removes the lighter particles, and washing with a cloth wet in diluted ammonia will both clean and freshen the surface.

Matting is dirty and expensive for continuous wear. For summer, however, it is highly desirable.

### SLIP COVERS.

A NEW material, says a contemporary, that gives a crisp appearance to the furniture when made up into slips is a French linen embroidered with tiny dots. This comes in 50-inch goods at \$1.00 a yard, and its range of colors—blue, red, green, heliotrope, and brown—adapts it to any color scheme that has been attempted for the winter months.

Cretonne has for a long time been used for bedroom furniture coverings, but only lately has it been adopted in other rooms. A daring use of a big flowered pattern made up with red binding made a summer parlor so distinctive that the idea is worth repeating.

Some of the art tickings have particularly pleasing designs, small and well-defined, that make them serviceable for certain pieces of furniture.

In the linen taffetas a hitherto unexplored field is now opened for the lovers of the beautiful in connection with the summer coverings or slips. The light brown or natural linen covered groundwork is more durable for this purpose than the white and the all-over patterns are the most economical. Roses tied with ribbon knots, garlands of flowers with stripes of contrasting colors and conventional designs are some of the styles that are pretty for slip covers.

In very dainty bedrooms the white dimities that have been sold for spreads and valances are now being used for furniture covers. At from 35 up to 60 cents a yard these dimities, in white and also in colored designs, are inexpensive for summer slips. It is essential that slip covers should be washable.

### ELECTRIC LIGHT FIXTURES.

A SMOKING-ROOM, described as lighted by electricity, has bulbs dropping from simple metal sconces set in the wall and veiled by means of little white curtains that hang from a framework of metal to match the sconce. Weighted with a narrow fringe of crystal, gold or silver fringe, such curtains look charming indeed. Curtains are quite a new feature of electric fittings, and very pretty they look in every case where the light can be completely hidden, except from the point of view of the person who sits beneath it, and who requires the radiance of its brilliance to fall upon her book or needlework. The curtains can easily be removed to be washed and cleaned.



## New Building Patents

The following list of New Patents relating to Building and Sanitary Science is prepared expressly for the *SCIENTIFIC AMERICAN BUILDING MONTHLY* by MUNN & Co., Solicitors of American and foreign Patents.

A PRINTED COPY of the specification and drawing of any patent in this list, or any patent in print issued since 1865, will be furnished from this office for 10 cents, if exact date of number is furnished. Remit to MUNN & Co., 301 Broadway, New York.

### BRICK, STONE AND TILE.

COMBINED BRICK AND TILE. D. W. Anderson, Richmond, Va. February 2	750,789	750,790
FLOOR TILING. W. J. Ellis, Akron, Ohio. February 2	750,954	
MANUFACTURING OF FIREPROOF BRICKS OR MATERIAL. F. Cruger, Berlin, Germany. February 2	751,080	
CONCRETE BUILDING BLOCKS. F. A. Malette, Geneva, N. Y. February 2	751,089	
TILE. S. B. Flind, New York, N. Y. February 2	751,275	
BUILDING TILE. J. Schall, Evergreen Park, Ill. February 2	751,346	
CHIMNEY TILE. F. Minger, Westland, Iowa. February 9	751,534	
BUILDING BLOCK. E. O. Bayler, Adrian, Mich. February 9	751,711	
BUILDING OR PAVING BLOCKS. F. B. Henry, Philadelphia, Pa. February 10	752,070	
TILE. R. McCreel, Jacksonville, Fla. February 23	752,697	
ILLUMINATING TILE. J. Jacobs, Brooklyn, N. Y. February 23	753,078	

### CARPENTRY.

STAIRWAY. E. Ohnstrand, Jamestown, N. Y. February 2	751,098	
WINDOW. H. C. Nelson, Salem, Ohio. February 9	751,747	
WEATHER STRIP. G. L. Parker, Bremerton, Wash. February 2	752,355	
WEATHER STRIP. W. H. Etter, Marietta, Ohio. February 16	752,390	
WEATHER STRIP. C. Vose, New York, N. Y. February 16	752,729	
WEATHER STRIP. J. H. Foote, Cincinnati, Ohio. February 23	752,767	
WINDOW SASH. I. W. Kimson, Milford, Mass. February 23	752,831	

### CONSTRUCTION.

WINDOW SASH. E. Ohnstrand, Jamestown, N. Y. February 2	750,999	
PROTECTING PLATE. W. W. Sills, W. A. Fritz, Marshall, Texas. February 2	751,008	
CENTERING SUPPORT. G. H. Kunneke, New York, N. Y. February 2	751,181	
REVOLVING METALLIC WINDOW. L. Christenson, New York, N. Y. February 2	751,379	
METAL WINDOW. J. A. Kalsely, Chicago, Ill. February 9	751,521	
SKYLIGHT. Mullins, Hare and Nelson, Salem, Ohio. February 9	751,746	
METHOD OF BUILDING CEMENT WALLS. D. G. Gray, Philadelphia, Pa. February 9	751,789	
COMPOSITE BUILDING CONSTRUCTION. J. Kahn, Detroit, Mich. February 9	751,921	
WALL FURRING. C. E. Dobbin, New York, N. Y. February 16	752,530	
WALL OR VAULT. J. G. F. Law, Danbury, Conn. February 23	752,694	
SKYLIGHT. C. W. Smith, New York, N. Y. February 23	752,869	
CEMENT ROOFING PLATE. Baden and Gluss, Hamler, Ohio. February 23	753,188	

### ELEVATORS.

ELEVATOR CAGE. W. Humphreys, New York, N. Y. February 2	751,173	
MEANS FOR ARRESTING ELEVATOR CARS. T. H. Hallcock. February 9	751,504	

### FIREPROOFING AND FIRE EXTINGUISHMENT.

SELF-CLOSING FIRE DOOR. G. Wideman, Aurora, Ill. February 2	751,593	
FIRE EXTINGUISHING DEVICE. C. Brown, Chicago, Ill. February 16	752,327	
FIRE DOOR CLOSING MECHANISM. C. A. Gray, Villa, Pa. February 23	752,825	
FIREPROOF STRUCTURE. N. Poulson, Brooklyn, N. Y. February 23	753,209	
FIREPROOF DOOR. N. Poulson, Brooklyn, N. Y. February 23	753,210	

### HARDWARE.

REARER HINGE. R. D. Struble, Philadelphia, Pa. February 2	750,908	
SASH FASTENER. R. S. Reid, Timaru, N. Z. February 9	751,809	
SASH FASTENER. James E. Gibbs, Bridgewater, Va. February 16	752,062	
LOCK. C. Faust, Rhineclander, Wis. February 16	752,148	
WINDOW SASH FASTENER. P. H. Page, Surrey Centre, Canada. February 16	752,253	
SASH HOLDER. B. Hermann, Ander, Texas. February 16	752,549	
KNOB ATTACHMENT. P. La Belle, Anderson, Ind. February 16	752,623	
LOCK. P. La Belle, Anderson, Ind. February 16	752,624	
WINDOW LOCK AND REGULAR ALARM. P. Hinko, Chicago, Ill. February 23	752,775	

### HEATING AND VENTILATION.

COMBINED SCREEN, WINDOW AND VENTILATOR ATTACHMENT FOR DOORS. J. H. Moskow, San Francisco, Cal. February 9	751,668	
RADIATOR SUPPORT. J. A. Beury, Beury, W. Va. February 9	751,828	
HOT WATER RADIATOR. J. L. Lister, Mt. Vernon, N. Y. February 23	752,987	
RADIATOR. G. M. Aylesworth, Collingswood, Canada. February 23	753,631	

### MISCELLANEOUS.

MORTAR HOLDING AND DISCHARGING DEVICE. F. C. Ferris, Columbus, Ohio. February 2	750,837	
RETAINING MATERIAL FOR PLASTER OR TILE. L. E. Murphy and Camp, Chicago, Ill. February 2	751,094	
FLOORING OR WALL COVERING MATERIAL. J. J. C. and M. Smith, Passaic, N. J. February 16	752,116	
HEAVY GLASS MOSAIC. P. L. Linden, Chicago, Ill. February 16	752,346	

### PLUMBING.

VENTILATING DEVICE FOR WATER CLOSETS, ETC. A. Drouillard, Windsor, Canada. February 9	750,952	
WATER CLOSET ATTACHMENT. P. H. Bacon, New Haven, Conn. February 16	752,321	
WATER CLOSET. J. W. C. Bacon, Ill. February 23	752,966	

### TOOLS.

CARPENTERS' TOOL. F. Lindblad, New York, N. Y. February 2	750,806	
PLUMB AND LEVEL. H. L. Duisen, St. Louis, Mo. February 10	752,335	

## Plumbing

### PLUMBING EVILS AND REMEDIES.

THE dangers of badly-planned, haphazard work, and shoddy materials, pointed out a recent English writer, are now much more thought of than formerly, although indifference yet prevails in some quarters. The evils we have now to lament arise from a variety of causes:

1. Plumbing in the past has not been sufficiently recognized as a distinct craft. 2. Unskilled labor and incompetent workmen are to be found in the trade, due largely to the falling away of the apprenticeship system. 3. Ignorance, negligence, and deliberate wrongdoing are not unknown. 4. The use of unsuitable materials as the result of competition and low tenders. "Cheap" and "nasty" are twins, and there is nothing cheap in money if the lives of our fellow-creatures are endangered. 5. The absence of supervision by an independent authority.

The injurious influences at work in connection with plumbing are: 1. The liquid and solid refuse discharged from basins, sinks, wash-hand basins, and water-closets; and, 2. the products of the decomposition and putrefaction of this matter. This putrefaction produces gases which, mingling with the air in the soil pipes and drains and sewers, constitute what is loosely spoken of as "sewer gas," which, in a well-ventilated system, should not be inferior to, or more hurtful than, the air of an overcrowded room, workshop, or school. It is composed of ordinary atmospheric air, with the addition of less than 1 per cent. of the gases and vapors given off by decomposing sewage.

It is the putrefaction produced by the organisms or germs of the organic material deposited on the sides of the pipes, or in the cracks or inequalities (often the result of bad workmanship), which gives off gaseous impurities of an injurious nature, because they seriously diminish the oxygen, and also are poisonous in themselves. They should, therefore, be excluded from the dwellings, and this is one of the main requirements of good plumbing. These gases and germs enter the dwelling through various avenues. We may take it roughly that neither gases nor germs can pass through a properly constructed and properly laid water trap, on a properly ventilated system. If a little amount of gas does pass, it is probably rendered harmless by filtration through the water. If, in any way, the water seal is broken, whether by faulty work or by siphonage, then both gases and germs will doubtless be conveyed within the house. Or admission might be gained by loose joints, or cracks, or punctures in the pipes, aided by suction and the warmer atmosphere of the dwelling. Having gained entrance, what is the effect on the health of the inmates? Specific disease can only be produced by the specific organism, because these germs breed true. To the causation of enteric fever the bacillus typhosus is necessary, but that organism is not found in the soil pipes unless from the excremental discharges of an enteric-infected patient. It is immaterial whether these germs, having gained admission, are carried directly to the victim, or are deposited on milk, or in water, etc., and then swallowed, afterward multiplying readily in the human intestines, producing the specific fever. While it may be safe to argue that ordinary soil pipe or drain air does not produce any specific disease, such as enteric fever, it is admitted that the frequent and prolonged inhalation of this air has a devitalizing influence, by lowering the general tone of health, and thereby weakening the power of resistance to infection, and even to ordinary ailments, such as catarrhs. Such symptoms as headache, sickness, loss of appetite, feeling of lassitude, sore throat, and diarrhea, and feverishness are frequently produced in houses to which drain air has free access. Continued residence under such circumstances may lead to a seeming toleration in the human system, but impairment of the general health and appetite, with loss of vigor, may be noticed.

### A NEW ANNOUNCER.

A NOVELTY in the life of the "in and out" notifications, which are coming more and more into use, both in private houses and apartments, is shown in one of the shops. It consists of a box made of hardwood, and it is provided with a slit for letters and has a lock and key. On the outside of the box is a dial, provided with a hand for marking the time of return, and on one side of the box is the word "In" and on the other the word "Out." On top of the box is a small white slate in a mahogany frame, with a pencil attached. This may be replaced with a pencil and pad if preferred.

## Legal Notes

### FORECLOSURE OF LIEN.

ON foreclosure of a mechanic's lien, sub-contractors can not obtain a personal judgment against the contractor unless they have filed a lien. *Nussberger vs. Wasserman et al.*, 81 N. Y. Supp. 295.

### MATERIALMEN'S LIENS.

Ky. St., Section 2,463, giving to those who perform labor or furnish material for the improvement of real estate a lien thereon, and on the land, to secure the amount thereof, with costs, etc., imposes on the owner the duty, to the extent of the full contract price, of seeing that the mechanics and materialmen are paid, and no payment made by him to the contractor, even without notice of the claims of the mechanics and materialmen, can relieve him therefrom. *N. O. Nelson Mfg. Co. vs. Mann et al.*, 71 S. W. Rep. (Ky.) 851.

### TIME FOR ENFORCING LIEN.

BURNS' Rev. St. 1894, Section 7,257 (Horne's Rev. St. 1897, Section 5,395), provides that one seeking to acquire a mechanic's lien must file notice in the recorder's office of the proper county "within sixty days after performing such labor or furnishing such material." Section 7,259 (Section 5,298) declares that any person having such lien may enforce same by filing his complaint in the proper court within one year from the time said notice was filed. Section 7,265 (Section 5,293) gives to certain persons and claims a preference without the filing of the notice of lien. *Held*, that Section 7,265 did not extend the time for enforcing the lien. *Smith et al. vs. Tate et al.*, 66 N. E. Rep. (Ind.) 83.

### LIEN ON HOMESTEAD.

IN Comp. Laws, Section 10,711, providing that where lands on which improvements are made are held and occupied as a homestead, the mechanic's lien provided for in the act shall attach to the lands and improvements, if the improvements be made in pursuance of a written contract, signed by both husband and wife, the word "homestead" is used in its constitutional sense, and the excess over the \$1,500 exemption provided for in the constitution is subject to mechanics' liens, though the contract for the improvements is not signed by the wife. *McAllister vs. Des Rochers et al.*

### COMPLETION PREVENTED BY OWNER.

WHEN, under a building contract, the contractor has been prevented from completing his work by the fault of the owner, the legal measure of damages is generally, for the work done, such a proportion of the entire price as the fair cost of that work bears to the fair cost of the whole work, and, in respect to the work not done, such profits as he would have realized by doing it. *Wilson vs. Borden*, 54 At. Rep. (N. J.) 815.

### EXTENSION OF TIME.

WHERE, after the expiration of a reasonable time within which a contractor was required to complete an annex to a building, and after the old building has been destroyed by fire, the owners demanded that the contractors complete the building, such demand constituted an extension of time, and a waiver of the contractor's failure to seasonably perform the contract. *Krause et al. vs. Board of School Trustees of School Town of Crothersville*, 66 N. E. Rep. (Ind.) 1010.

### EXTRAS DEFECTIVE WORK.

WHERE columns to support a balcony of a building were rendered necessary on account of the defective manner in which the contractor performed his work, he was not entitled to charge for the same as extras. *Vanderhoof vs. Shell*, 72 Pac. Rep. (Or.) 126.

### ENGLISH PAVILION, ST. LOUIS.

THE English Pavilion just completed in the grounds of the St. Louis Exhibition is practically a reproduction of the Orangery at Kew, carried out under the architectural direction of Messrs. Ernest George & Yates, the well known English architects. The building has been solidly erected so that it could remain as a permanent building if required. The materials are timber and Portland cement upon metal lathing. It is a building of much interest and quite characteristic in style and plan.



## Publishers' Department

### INTERLOCKING RUBBER TILING.

IMPROVEMENTS made in india rubber have always been quickly followed by demands for its application to industrial needs. Destined to success immediately it sprang into its mere gum shoe prominence, it has ever since advanced to the position of a constructive feature in much of our ornamental, scientific, and practical work. The material definitely embraces so many possibilities in the direction of elasticity, insolubility, economy, impenetrability, flexibility, and endurance that it is bound to enter into an infinite variety of uses, and be a fit and adequate investment for the betterment of the world, so long as no accident interferes with its production and vulcanization. It is a foe to all gases and liquids, and a friend to tires, boots, mechanical goods, druggists' sundries, game im-



INTERLOCKING RUBBER TILED FLOOR.

plements, clothing, etc. It is put into belting, tubing, packing, hose, valves, stopples, pumps, wheels, rings, washers, and many other articles. It is successfully used in place of earthen tiles in many large buildings. Manufactured in a carefully selected variety of colors and forms, this rubber tiling is a favorite for floating palaces, business offices, vestibules, halls, billiard-rooms, churches, libraries, hotels, hospitals, and wherever a perfect walking surface is desired in private residences and important structures. Interlocking rubber tiling is manufactured by the New York Belting and Packing Company, Ltd., and freely endorsed by architects and engineers. It is especially and peculiarly adapted for use in water craft, whether yachts, steamships, or men-of-war. It stands constant straining and racking without cracking or separating, and its non-slippery feature is of high value at sea, and as an instance of its fitness for ocean-going service we mention that it was selected by the Russian officers for flooring on the Cramp built battleship recently sunk at Port Arthur. A list of places of the highest rank all over the country using rubber tiling would give an excellent idea of the wide adoption of this material, but it is obviously inconvenient to mention more than a few, such as Marshall Field, Siegel Cooper Co., National Bank of North America, United States Capitol, Philadelphia City Hall, United States battleships, People's line of steamers, the yachts Conqueror and Niagara, palace car companies, Waldorf-Astoria, Brooklyn Hospital, Grace Church, and Dakota Flat. In the modern floor used in the above list of representative constructions each tile is interchangeable, and may be readily removed if necessary, but is shaped so as to lock firmly into the adjoining tiles, the whole forming any design and combination of colors desirable, and producing a solid area of flooring unlimited in size, non-absorbent, odorless, impossible to loosen up, and incapable of harboring any germs. The practicability of the nosing as applied to stair treads is at once apparent, possessing, as it does, the safe non-slippery feature of tiling, and interlocking with the tread. A very important product of this firm is rubber belting, which possesses unsurpassed efficiency for the transmission of power. Its basis of strength is cotton duck, the plies of which can be increased to resist any required tensile strain, and uniformity of strength and thickness throughout can be always relied upon. It is completely waterproof, not easily affected by range of temperature, and its flexibility and smoothness of surface give perfect contact with pulley and insure the transmission of

the maximum horse power without slipping. It is, therefore, adapted not only for all regular work, such as main engine drives, countershafting, etc., but is especially suited for saw and paper mill service, elevators and conveyors, threshing and brick making machinery, and all exposed outdoor work. Mats and matting form another feature of manufacture in a list comprising perforated, embossed solid back, corrugated rubber, diamond cell, coin, car step, and pyramid mats. The firm also makes a very extensive line of packing goods, consisting of about thirty varieties; sixty kinds of hose; apron cloth, billiard and pool table cushions, bottles, bags, coffin strips, tips, tubing in many styles, typewriter platens and rolls, disks, and thousands of other articles. A works which covers so many acres at Passaic, N. J., and is capable of shipping its products all over the world, has the industrial distinction of always being busy manufacturing all the essentials in the sciences, the arts, and domestic life obtainable from one of the most wonderful and useful of the growths of nature. There, may be seen the great output of the most substantial and delicate goods, and there, may be appreciated the alertness and enterprise that enable the development of such a vast variety of constantly multiplying objects of novelty and utility. There, whatever may be superficially spread or molded or cast into forms, are bound to be expressed in some well fashioned device or strong protected fabric as dainty or as sturdy as skilled workmanship and improved appliances can produce. The illustration in connection with this article shows a billiard-room floor covered with interlocking rubber tiling. The address of the manufacturers of these mechanical rubber goods is No. 25 Park Place, New York, N. Y.

### DRAWING PAPER AND DRAWING BOARDS.

A NEW line of detail paper has recently been put on sale by some of the leading dealers under the name of Strathmore Detail Drawing Paper, white and buff, and those who have tried the stock prize it highly, and intend using it permanently.

Another line of some interest to architects and draftsmen is the Strathmore Drawing Board for pen and ink; also Strathmore Illustrating Board for water colors. These boards are of exceptional merit, and they are used and recommended by the leading artists and architects of the country.

The manufacturers, the Mittleague Paper Company, of Mittleague, Mass., have for a number of years been noted for the quality of their product, and if it is kept up to the present standard it will always find a ready market.

### PRISMATIC GLASS.

FROM an opinion given by celebrated lawyers we have the information that their firm has carefully examined and considered the five Letters Patent of the United States which are now owned by the Daylight Glass Manufacturing Company, Nos. 608-610 Chestnut Street, Philadelphia, Pa., under which licenses have been granted to the American Luxfer Prism Company and George K. Maltby & Co., for machines for making prismatic glass, for a method of making sheets or panes of prismatic glass for use in making prismatic windows, and for a method of making prismatic windows. In this firm's opinion, the patents which we have mentioned above are good and valid patents, and cover very broadly (1) the machines which are used in making plates of prismatic glass by the rolling process or method; (2) the method of making panes or windows of prismatic glass, which consists in rolling the glass into a sheet having rolled prismatic projections on its surface and then annealing and cutting the sheets in the desired manner, and (3) the product resulting from the methods just described, to wit, a prismatic glass window comprising a sheet of rolled glass, having rolled prismatic projections upon its surface and having the property that it may be cut into the size or shape desired. These patents all relate to what is now termed the "sheet glass" method of making prismatic glass or prismatic windows. The five inventions covered by these patents are closely related. The fact that patents have been granted to the Daylight Glass Manufacturing Company for machines which are particularly adapted for carrying out the method, as well as for the method and for the product, is an indication of the broad novelty of these inventions, and its attorneys say that it is also an assurance that the company will be able to maintain its exclusive rights thereunder, and that every feature or aspect of the invention is covered, and covered broadly, in these patents. This firm of lawyers is clearly of the opinion that these patents can be sustained against any infringer.

### INSULATION OF HEAT, COLD, AND NOISE.

IN the construction of buildings of all classes or kinds used or occupied for offices, dwellings, school-houses, amusement and concert halls, theaters, etc., the question of insulation of heat, cold, and deafening is an important one for those who are desirous of having a building as fire and sound proof as it can be made, and be comfortable in summer and winter. In the selection of a material for this purpose, it is necessary to employ one which is not only fireproof, but also at the same time a good non-conductor of heat and sound. To obtain the best results, it is essential that the material chosen should be properly used. This is done by filling the entire space between the studding, as these spaces form flues for the conveyance of sound and fire from cellar to roof. For this reason alone, asbestos sheathing is not desirable, although in itself it is fireproof. The same may be said of paper sheathing and hair felt; nor are they as good as asbestos paper, from the fact that they will decay, and in so doing give off unpleasant odors, and neither is fireproof. It is also well, when selecting some material for insulation and deafening, that it should be light, clean, and easily applied. Brick filling between studding is not very satisfactory, because the space between the studding (16 inch centers) is not adaptable unless you break the bricks, and use what are called bats, which are not good insulators, as they are heavy and hold moisture. Among the materials which have been extensively used during the past few years for insulation and deafening, mineral wool has fully met the requirements in all buildings wherever it has been applied. From statistics and tests we learn that its fusing point is 2,200 degrees Fahrenheit. This shows that it is fireproof. It fills the entire spaces between studs, thereby securing the deadening of sound and the prevention of fire running from the cellar to the roof through the inevitable flues with a rapidity most astonishing and disastrous. Experience shows also that mineral wool saves its cost by what it saves in fuel in two or three years, in an ordinary dwelling house, and other instances prove its doing so every five or six months. Of course, this is by the reservation of steam heat. Furthermore, in its favor is the fact that, because it is mineral, it affords no abiding place for vermin of any kind, as it is absolutely vermin proof. Therefore, as mineral wool possesses all the qualities claimed above, that is, fireproof, insulation of heat or cold, deadening of sound, and vermin proof, there can be no question as to its being unsurpassed by any other materials on the market. All who desire comfortable homes, that are cool in summer or warm in winter, free from noises, and for very little cost, considering



MINERAL WOOL BETWEEN STUDDING.

the amount of comfort obtainable by proper application, will do well to give this material their careful attention and consideration. In the accompanying illustration, mineral wool is shown filling the spaces between studding. Mineral wool pipe covering is manufactured by the United States Mineral Wool Company, No. 143 Liberty Street, New York, N. Y. The firm also makes corrugated copper gaskets.

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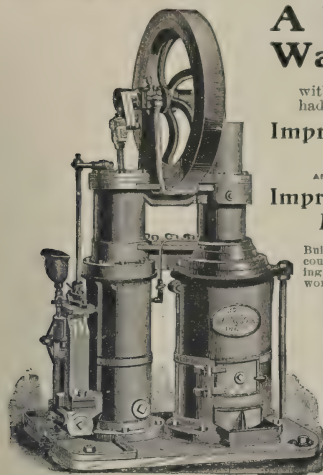
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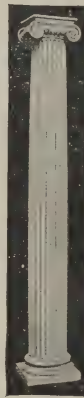
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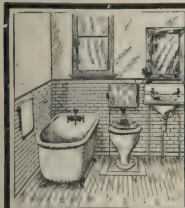
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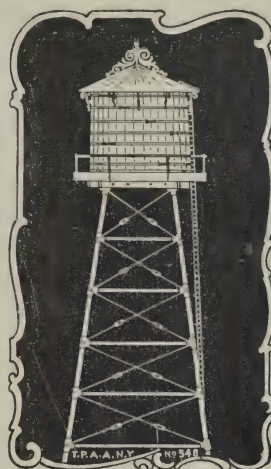
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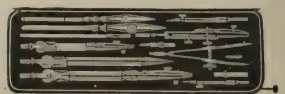


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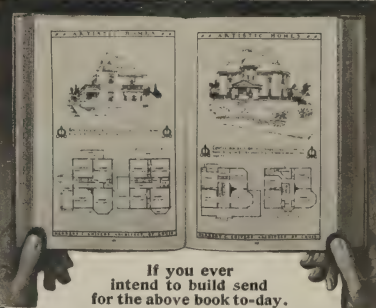
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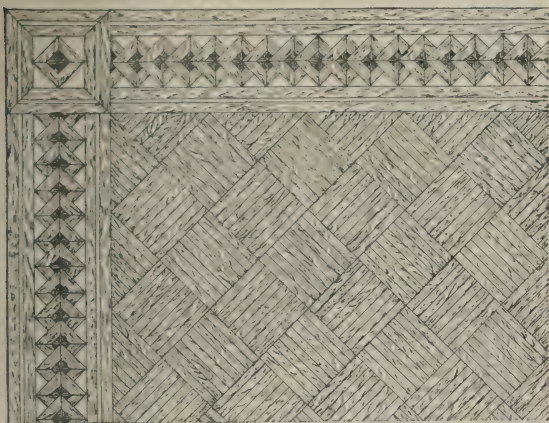
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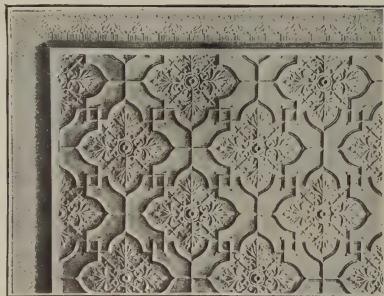


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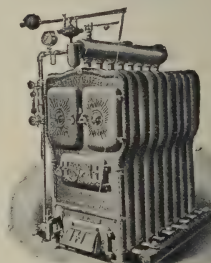
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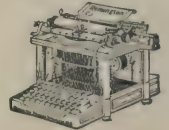
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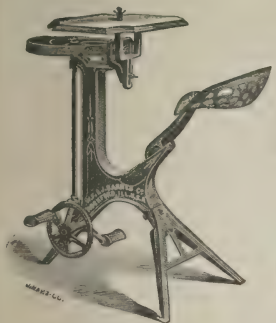
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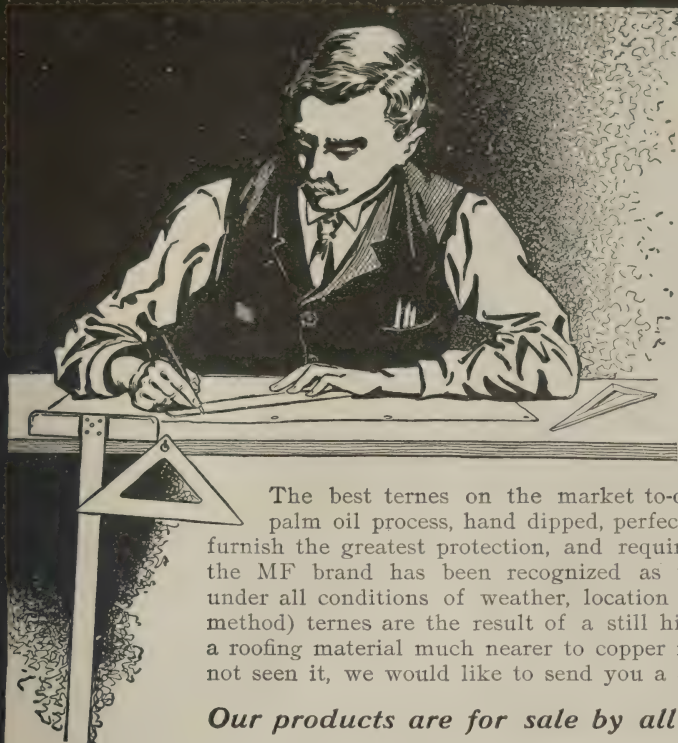
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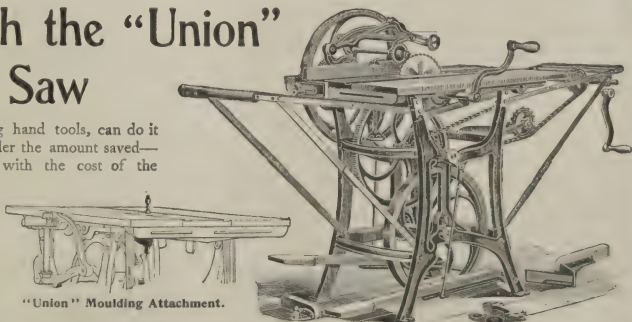
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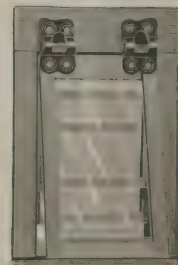
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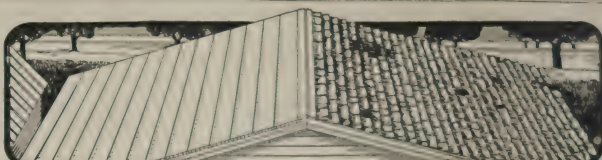
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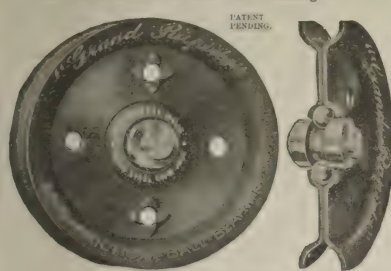
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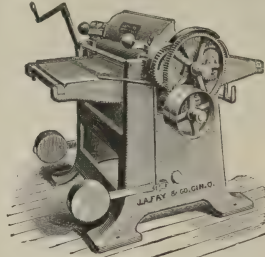
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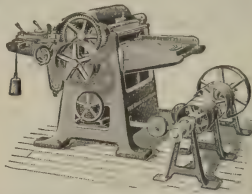
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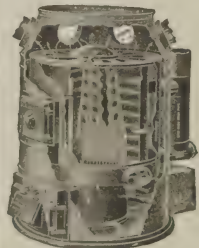
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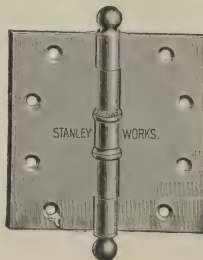
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PORCH AND TERRACE—"GREY CRAIG," ESTATE OF J. MITCHELL CLARK, ESQ., NEWPORT, R. I.—See page 91.  
MR. ABNER J. HAYDEL, ARCHITECT.



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\*The engravings presented in this issue are made from photographs taken specially for the SCIENTIFIC AMERICAN BUILDING MONTHLY.

## MONTHLY COMMENT.

THE terrible ravages by fire in the past winter have already been alluded to in these columns, but the statistics that have been collected since this waste was commented on brings out the loss occasioned by these catastrophes in a truly startling manner. Over \$90,000,000 worth of property burned in the single month of February is a record not only startling but horrible. It is a loss so great that no steps that can be taken to prevent a repetition of it can be counted as too costly. Protection by insurance counts for very little in the sum total of losses to the community at large. Insurance, of course, is necessary, and gives some satisfaction to the unfortunate owner whose buildings have been destroyed or injured by fire; but it can in no sense cover the actual loss to the general community. The statistics of fire losses for the first two months of three successive years are appalling. In 1902 the loss was \$36,043,300 for January and February; for the same months in 1903 the loss was \$29,257,150; and for the same period in 1904 the loss was \$111,841,200. The average for the current year per month has been \$55,920,660. This means a financial situation of extraordinary seriousness.

GENERAL interest in houses is now at its height. Everybody has either just moved into his new house or is enjoying his own with renewed satisfaction. Houses, no doubt, are very useful and even necessary in the cold winter time, but when the summer comes along, and one can go out of them, that is the time! It is strange that houses, which are built for protection and shelter, should only reach their most enjoyable use when one can leave them and stay away from them pleasantly. Yet such seems to be the fact. However, it is more to the point that people are looking at houses, discussing houses, testing houses, wondering about houses, building houses. The more any of these operations are performed, the better it is for

houses in the long run. Once people begun to consider houses as houses, a long step forward has been made in the popularization of architecture.

ANOTHER timely idea is that people are no longer considering houses as things apart and by themselves. We are learning, and learning every day, to consider the house in its relationship to the environment. Good houses, well built houses, attractive houses, will not sell in neighborhoods poor and undeveloped. A green field, of course, is always welcome, but even green fields pall on one when they are littered with waste paper, when they are turned into ball grounds for the Sunday crowds, when goats and other strange beasts seek food and rest upon them. Yet all these things add to the joy of existence, and help the making of a pleasant day. The sober-minded householder, certainly, does not enjoy these delights in others in close proximity to his dwelling, and so the environment of the house, the street or road, the sidewalk, the close by grass, the garden that is to be one's very own—all these things count in the perfecting of the house and the delight one should naturally take in one's own abiding place.

THERE is attraction in splendid furnishings which is sometimes irresistible. Soft curtains, rich stuffs, handsome carpets, artistic decorations, are attractive even to those who can not tell wherein lies their excellence, nor what it is which directly contributes to their beauty. A splendid house, splendidly furnished, is apt to have some special interest, even if not arranged in the best of taste or wholly filled with art works. Richness of materials helps and counts very much. Yet richness of materials will not, in itself, make a house distinguished or give it merit. Good taste is of more value than sumptuousness in decorations. It is the taste in the original fabric which makes a piece of goods beautiful and interesting. Taste in its disposition will help further in the decorative effect. A rich material is always good in itself, but it is never effectively employed in household decoration unless it is used in good taste and in a good way.

PROPHETIC souls are already looking forward to the time when the horse will be supplanted by the automobile for all city service. When that happy time arrives we are told there will be more room in the streets, for the space taken by the horses will be saved, and more vehicles can be accommodated within a given area. The argument is a specious one, yet the real effect of the popularization of the automobile is more likely to be an increase in the congestion of street traffic than a lessening of the present crowding. Low prices for automobiles will mean their vastly increased use. More people will buy them and more people will use them. Instead of fewer vehicles there will be more, and unless the laws are modified, there will be more untrained reckless propellers of such conveyances than at present infest our thoroughfares. Public matters like this often adjust themselves, but it should at least be obvious that we can not count on much additional space when the horse disappears from the streets.

## THE SMALL HOUSE.

THE small house, the house for persons of very moderate means, is one of the most important architectural problems of the present day, yet it is one of the questions which receives the least consideration and attention from the architect. And the reason is not far to seek. Architects are paid by a commission on the cost of their work. The labor involved in planning and designing a small house is very considerable, the pay is very small. This sums up the position of the architects, save that, as a rule, there is small glory or distinction to be had from designing such structures. An architect whose practice was limited to work of this description would be regarded by his fellow-craftsmen as a small man, doing small work, and hardly worthy to rank with the real architects who turn out monumental structures and live in the fierce light of distinction.

It is a misfortune that such should be the case, yet architects are but human, and not one of them is engaged in his profession for the benefit of his health. When one realizes that the commission on a \$500,000 job is \$55,000, and that there is scarcely a limit to the number of such jobs every architect regards himself capable of carrying out in a single year, and that the commission on a \$1,000 house would be but \$50, it is apparent how many of the latter one man would have to do in the time in which he could earn \$25,000 on a single large piece of work. There is, therefore, a real reason, and a very good one, why architects should neglect the smaller jobs and wish only to have large ones.

But the misfortune of the situation is none the less because it can hardly be avoided. The misfortune is, indeed, very great and very real, for very many more

people live in low priced dwellings than in costly homes, and the health and well being of the masses of people is dependent, in large measure, upon their homes. The problem of small houses, therefore, constitutes one of the great problems of the day, although, as has been explained, architects contribute little toward its solution.

As a matter of fact, however, the actual situation has been somewhat understated. Small houses, it is true, do not pay the architect for the time and labor he must spend upon their design and building; but as an offset to this state of affairs is the fact that such dwellings are seldom built in single examples, but, when built at all, are built in rows and blocks, many houses at a time. New York City, in the older part, now called the Borough of Manhattan, no longer offers houses of this description. In that region land is much too costly to warrant the erection of small dwellings for the laboring classes; hence the tenement, with all its abominations and crudities. In some of the suburban regions of the metropolis small houses are being built, but no city offers so many examples of this class of dwellings as Philadelphia, where small houses for laboring people have long been a characteristic type of structure, and where they have been carried to a very tolerable state of excellence as building speculations.

The small house problem is reduced to much narrower dimensions in England, where artisans' dwellings costing less than \$1,000 are not uncommon. But here, as in Philadelphia and elsewhere, such structures are seldom erected singly, but are built in rows and groups, and the architect compensated on the gross cost of an entire series.

All through the problem runs the question of the architect's compensation. The building of houses is entrusted to architects who, quite naturally, consider themselves thoroughly competent to undertake and, perhaps, solve every architectural problem which can be devised. It will at least be admitted that they constitute the class of citizens whom we look to for building work, and if they will not or can not take up this very important problem, who else will do so?

It may be questioned if the small house, even in its simplest and cheapest form, yet reaches the class of persons which would be most benefited by it. That, however, is an aspect of the matter which has no architectural interest. If small, cheap houses are built, and people who might afford better ones insist in living in them, it is a compliment to the designer's skill, and shows how much there is to do before the masses can be reached in things architectural.

But the matter is more of a financial problem than an architectural one. If it can be shown that small houses will pay, will pay on the cost of the land, will pay in addition on the cost of the building, will pay as a permanent investment, they will be built, and not otherwise. Philanthropy may help; in some cases it has done so, and doubtless more will be done, but it is the financial aspect which interests the investor, and it is on this ground alone that the building of small houses will be furthered.

The architectural problems concerned with the building of the small house are of the simplest description. Utter compactness, small dimensions, an avoidance of waste in space and materials, and simple sanitation. The artistic, if it enters at all into such matters, is unavoidably absent and is limited to matters of planning. There is no money for frills, no need for decoration, hardly room for an ornament within the mimic house. But if the work is rightly done, it will be done well, the materials will be the best that the price affords, the sanitation will be thorough and wholesome so far as it goes.

Thus the designing architect, the artistic architect, is clearly out of the whole matter. His taste calls for expenditures which can have no place in such dwellings, and their single merit will be their wholesomeness, with, perhaps, something added in for good construction. For the small house must be well built, or the repair bill will eat up the very narrow margin of profit which is all that the most economical construction will allow.

The small house is, in a certain sense, only a rudimentary house. It is only proposed as a shelter for the inmates, and if it shelters them well and in a healthy manner it does all that can be asked of it. This, of course, is a good deal; it is more than many dwelling places, for which there is a quick competition, do for their inhabitants; but it is far from realizing the full use and value of a house.

Cheap methods and poor construction are too often characteristic of the work done on small houses. This is especially the case where they are built for sale, and the owner is not concerned with what happens to them after they have passed out of his hands. Cheap ornaments and a tawdry decoration are too often used as a means of attracting buyers, and in a foolish notion that such additions add to the appearance of a house. No absurdity ever does that, and it is true of small houses as well as of great ones.



## TALKS WITH ARCHITECTS

By HARR FERREE.

MR. ABNER J. HAYDEL AND "GREY CRAIG," THE ESTATE OF J. MITCHELL CLARK, ESQ., AT NEWPORT, R. I.

Now that Mrs. Wharton has formally introduced the Beaux Arts architect into fiction, it may be presumed that this very interesting group of designers is known of all men. As a matter of fact they constitute more than a group, since every well trained architect of the present day considers his technical education incomplete until he has passed at least a few months at the celebrated Ecole des Beaux Arts in Paris; and those who do not get this whiff of French air wish they had, and try, as best they can, to imitate the ways of their more fortunate fellow-craftsmen.

As for the work of these foreign-trained architects, this is neither the time nor the place to discuss it generally; but those who do not view architecture technically can generally discern it by its foreign aspect and by the French atmosphere that clings more or less

"Grey Craig," the estate of J. Mitchell Clark, Esq., at Newport, R. I., is a domain of considerable extent, covering about 125 acres. The building of the house was a rare and unusual opportunity which Mr. Haydel has availed himself of in a thoroughly interesting manner. The situation readily lent itself to picturesque treatment; in the background, low, dark, rocky hills; in the foreground, a plain that stretched down to the ocean's edge, with a fresh water lake so near to the salt that it might be said to be close beside it. Of space there was a plenty, but the character of the landscape, and the predilections of Mr. and Mrs. Clark determined a castellated style of architecture.

As a proposal to an architect the idea contained many elements of doubtful success. The building of castles had ceased almost before the discovery of the American continent. They belonged to an age and a civilization so distant from our own as to be rightly designated as remote. And Newport, of all places, with its gay summer life! A more exotic sort of a house it would seem difficult to imagine.

Fortunately, Mr. Haydel had made a study of

the elevations, admits of no doubt. And he has achieved these ends by the very simple method of translating the spirit of the medieval building into modern building. "Grey Craig" is genuinely castellated in style and in character, yet it is a building that thoroughly meets modern construction.

The house stands alone, with no nearby edifice with which it may come in immediate contrast. The wild, dark landscape is, of all backgrounds, the most fitted and the most natural for such a design as this. It is built of stone taken from the land on which the house stands, a pudding stone having the quality of a natural concrete. Much of it was covered with natural moss when it was put into the building, and shapes and sizes of all sorts were used. It was laid in wide joints without troweling, but with small pebbles thrust into the squashed mortar. Hardly an individual stone shows, but there is a superb massiveness in the walls, which are dark gray. Although finished as recently as last fall, the architect does not exaggerate in the least when he submits that the house looks as though it had been built a hundred years.



THE COURT—"MILL-BROOK," BRYN MAWR, PA.—See page 104.

closely to it. It is a rather significant fact, I think, that by far the greater number of men who have studied in Paris seem able to design only in French styles, and these, by preference, of the latest vogue. A Paris-trained man who designs in a free, unacademic style is very rare, and at once proclaims himself, though unconsciously, a man of strong individuality.

I can pay Mr. Abner J. Haydel no higher compliment than to place him in this class. Although still one of our younger architects and the author of more than one academically designed building, it is highly significant that his first most important work—important because of its size, cost, and import—should be a dwelling of the first rank in size and cost, which bears no mark whatever of classic predilections, which too often is characteristic of the designs of those who have studied in Paris.

And Mr. Haydel is a Beaux Arts man, a student of the Ecole des Beaux Arts, a member of the Society of Beaux Arts Architects of New York, the recipient of a medal at the last Paris International Exposition.

castellated architecture, and his Paris training had broadened his viewpoint instead of narrowed it to classic architecture, as has so often been the case. The problem involved inconsistencies. A house was required that must be a castle, and, therefore, a medieval structure and a modern dwelling house for the gayest summer spot in America. It must have medieval character, and yet be thoroughly adapted to modern use and the usage of gay society. Here were inconsistencies with a vengeance, and inconsistencies before which many a brave and well trained man might have succumbed. The success of the work depended on meeting these thoroughly opposed conditions, and in producing a resultant—a design which would be at once a combination of these differences and be thoroughly satisfactory to the owners.

That Mr. Haydel has solved his very complicated problem, joined the old with the new, made a modern building that has the outward aspect of one naturally old, created an interior that meets modern conditions without violating the external expression contained in

One enters the house under the great tower, a structure thoroughly massive in its effect, genuinely medieval in its character, and yet neither cold, hard, nor forbidding. One, of course, only reaches "Grey Craig" by vehicle or by horse, and the automobile drives under the great tower archway into a vaulted vestibule. The visitor dismounts here, and his machine passes under the tower into the courtyard, where, further on, is the automobile storehouse and powerhouse. For "Grey Craig" is probably unique as yet among the great country houses of America, in having no stabling at all, the owners using automobiles exclusively.

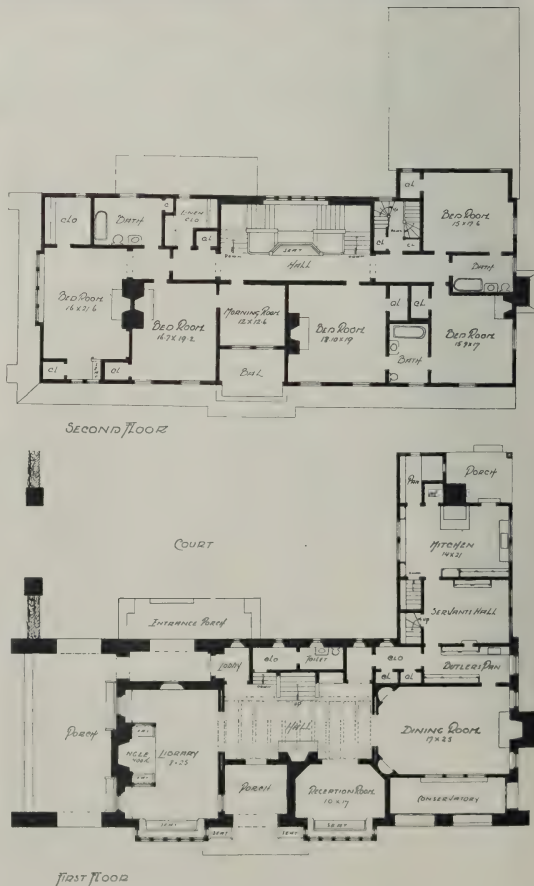
Leaving our machine, we pass into a vaulted corridor or entrance hall, and thence into the great central hall, a superb apartment, two stories in height. This is not only the central room of the house, but the most important. To the left is a platform, with a fine pipe organ, flanked on either side by a cathedral-like window; below these windows are Spanish church stalls

(Concluded on page 104.)





THE TERRACE PORCH.



"MILL-BROOK," THE COUNTRY ESTATE OF F. KING WAINWRIGHT, ESQ., AT BRYN MAWR, PA.—See page 104.  
MR. CHARLES BARTON KEEN, ARCHITECT.





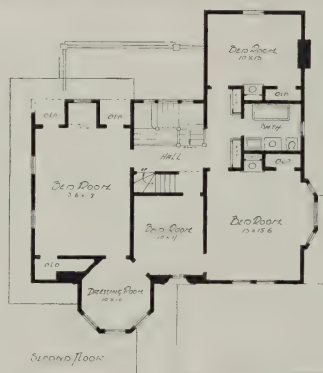
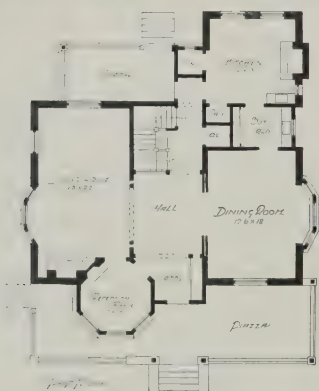
THE HALL.



LIVING-ROOM.

"MILL-BROOK," THE COUNTRY ESTATE OF F. KING WAINWRIGHT, ESQ., AT BRYN MAWR, PA.—See page 104.  
MR. CHARLES BARTON KEEN, ARCHITECT.





A HOUSE AT BENSONHURST, L. I.—See page 105.

MR. C. SCHUBERT, ARCHITECT.





A BUNGALOW AT PREMIUM POINT, NEW ROCHELLE, N. Y.—See page 106.  
MR. GROSVENOR ATTERBURY, ARCHITECT.





ENTRANCE FRONT.



"GREY CRAIG," THE ESTATE OF J. MITCHELL CLARK, ESQ., NEWPORT, R. I.—See page 91.

MR. ABNER J. HAYDEL, ARCHITECT.





VIEW FROM THE TERRACE.



MAIN HALL.

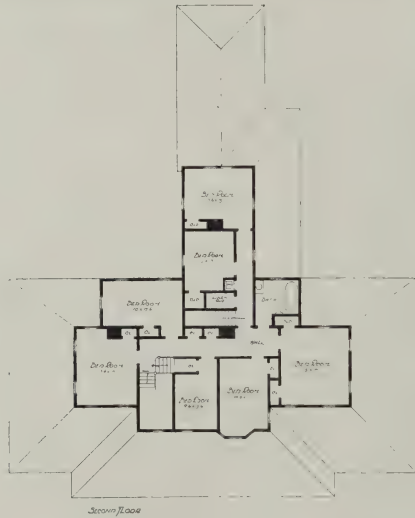


REAR VIEW FROM GARDEN.

"GREY CRAIG," THE ESTATE OF J. MITCHELL CLARK, ESQ., NEWPORT, R. I.—See page 91.

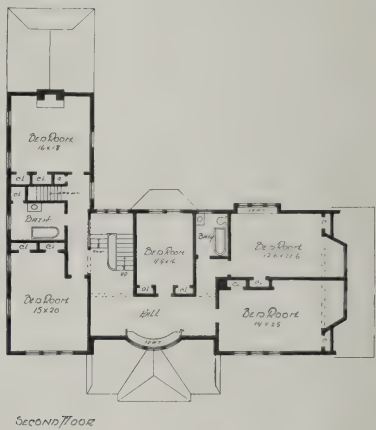
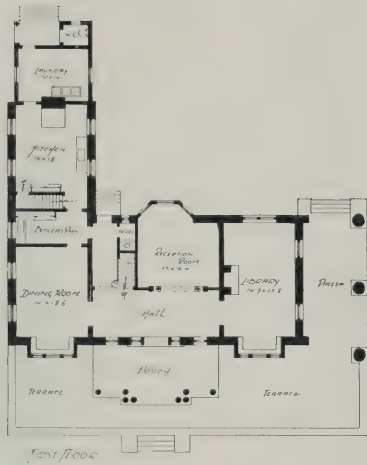
MR. ABNER J. HAYDEL, ARCHITECT.





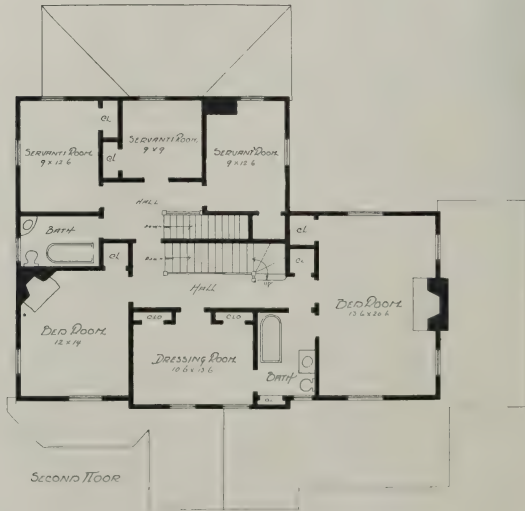
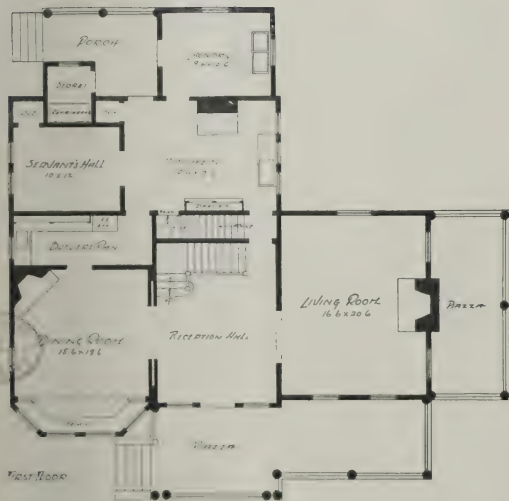
RESIDENCE OF HENRY BLAKE, ESQ., QUOGUE, L. I.—See page 106.  
MR. H. P. KIRBY, ARCHITECT.





RESIDENCE OF W. F. DORFLINGER, ESQ., AT ESSEX FELS, N. J.—See page 105.  
MR. LAURENCE VISSCHER BOYD, ARCHITECT.





A HOUSE AT WOODMERE, L. I.—See page 105.

MR. FRANK COTTOR, ARCHITECT.





ENTRANCE—ESTATE OF W. C. MORGAN, ESQ.



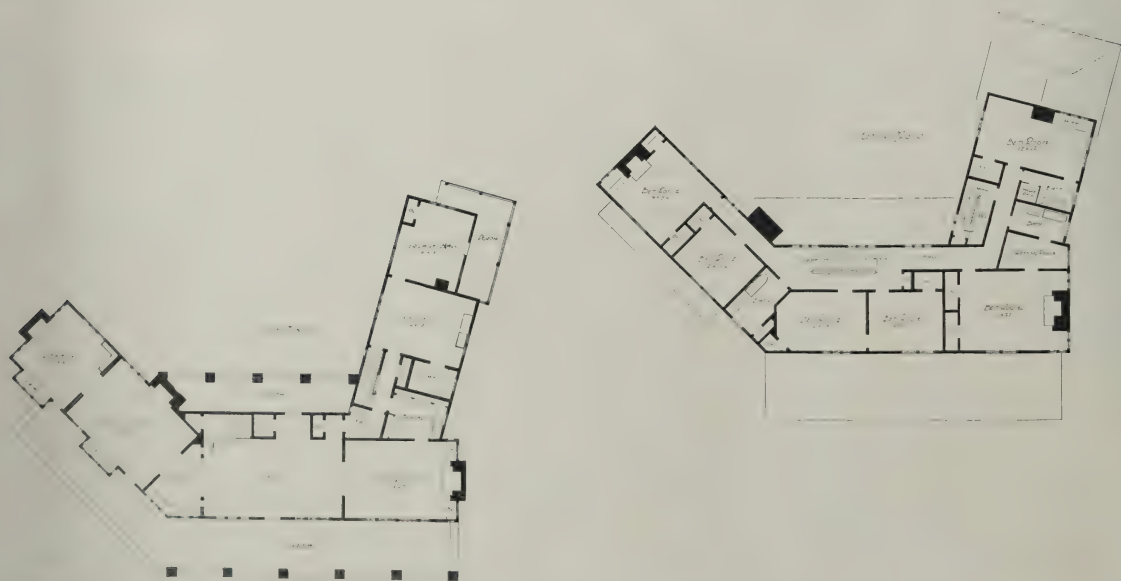
ENTRANCE—ESTATE OF E. C. CUSHING, ESQ.



ENTRANCE—ESTATE OF A. C. GURNEE, ESQ.

THREE GATEWAYS TO ESTATES AT BAR HARBOR, ME.—See page 105.





THE SUMMER HOUSE OF D. C. PERCIVAL, ESQ., AT MARBLEHEAD, MASS.—See page 105.

MR. EDWIN J. LEWIS, JR., ARCHITECT.





INTERIOR OF HALL, LOOKING INTO BILLIARD-ROOM.



DINING-ROOM.



MR. ABNER J. HAYDEL AND "GREY CRAIG," THE  
ESTATE OF J. MITCHELL CLARK, ESQ.,  
AT NEWPORT, R. I.

(Concluded from page 91.)

with high, heavily carved backs with oval panels with heads in the center, fine black oak stalls of unusual beauty, admirably placed. On the opposite side is a row of columns and pointed arches, a certain irregularity being given to the space by cutting off a part with curtains. The walls are of rough gray plaster with sand finish, and, save the carved capitals of the columns, there are no moldings or decorations beloved of the architects. The coffered ceiling is of California redwood, with beams supported by old Florentine shields; in the center is a large skylight with a brilliant sunburst in the center. At night this is lit above.

Cold? Not a bit of it. The walls are hung with superb old tapestries and rare paintings. The parquet floor is covered with rich rugs. The furniture is old, and chiefly Italian. In the center is a delicious Italian fountain. Hardly any of these furnishings are shown in the accompanying illustration, which is made from a photograph taken before the interior was entirely completed. It is a room of the greatest interest, both because of its size and its architectural treatment. Newport abounds with rich rooms of red and gold, of white and gold, of gold alone, one might almost say. One can readily believe that when the grand dames of our fashion capital walked into this room, fresh with remembrance of their own gorgeous apartments, they must have had a new insight into the meaning of walls and furniture.

Standing in this hall, the interesting originality of the plan is apparent. The general shape of the building is rectangular, with the entrance at one end. We have already traversed the entrance hall, but in coming into the central apartment we, perhaps, have not noted the small corridor to our left which leads to Mr. Clark's den, nor the elevator which, also recessed, is just before his door. Immediately opposite, on our right as we enter, is a staircase to the second floor, a staircase quite small and inconsequential—for who ever heard of a broad staircase of honor in a castle?—and, moreover, there is the elevator just across the hall, which is certainly an easier way of ascending to the heights above.

Passing into the hall, one is at once attracted by the great window at the end of a corridor exactly opposite the one by which we have entered, and which, indeed, may be considered a continuation of it, broken by the splendid oasis of the central hall. To the left of this is the dining-room; to the right the drawing-room, the two rooms and the separating corridor being so arranged that, from the dinner table, one may, if one is not dining at too late an hour, look out through the drawing-room windows upon the view beyond. Surely here is a plan both of interest and of novelty; for the dining and drawing rooms, which, in the standard plan, are apt to be near the entrance, are here removed as far as possible from it. The resultant advantage of space and arrangement is apparent to those who have visited this interesting dwelling.

The dining-room is three steps above the level of the entrance corridor. Like all the interior, except the drawing-room, it has sand finished walls. The furniture is gilt and red, and over the vast marble sideboard is a mirror which reflects the view from the great bay window opposite.

The drawing-room has an elliptical vault, lit at night by lights placed in stars, about a hundred, a brilliant effect that needs to be seen to be appreciated. The walls are hung with cloth of gold material, against which are placed mirrors and pictures. The furniture is gilt and of Italian origin.

The second floor—and we may reach it by the elevator or by the staircase—has a series of corridors and loggias surrounding the central hall. Here are guest rooms and the rooms of the owner. In the far corner, adjoining the owner's bedroom, is a morning room, decorated in Chinese materials and with Oriental effect. The corner windows afford a superb view.

No one can look from any window of the house without seeing a superb view. Nature here does not need much help from man to ravish one. The gardens adjoining the house are ample and finely planted, and just before the center of the entrance front is a spacious terrace decorated with statues.

The entrance is through the stone arch from the porch to the lobby, by which the main hall is reached. This hall is trimmed with pine and is treated a dark soft brown color. It has also a paneled wainscoting to the height of seven feet, which is finished with a massive cap. The ceiling is beamed, forming panels. This hall contains an ornamental staircase with broad landing rising from a central run to a broad platform, over which there is a cluster of windows glazed with small lights, and with transoms; from this landing the stairs divide and rise in either direction to the second story. The open fireplace in hall is built of Pompeian brick with a hearth of the same and facings of green marble. The mantel shelf is supported on brackets with carved heads, and an overmantel paneled the same as wainscoting and with a scroll of emblematic design extending across the face of the hearth.

The living-room is trimmed with chestnut, stained a Flemish brown, and has a batten wainscoting, a beamed ceiling, a bay window with paneled seat, and an angle nook containing an open fireplace built of Pompeian brick, with the facings of the same, and a mantel shelf extending across the entire angle nook and supported on brackets. The hearth and the floor of the angle nook are paved with Dutch tile of a reddish color. On either side of the fireplace seats are built in, and beyond the angle nook are bookcases with ornamental glass doors.

The reception-room is treated with china white enamel. The dining-room is trimmed with Flemish oak, and has a wainscoting provided with batten strips placed at various intervals, which form panels, the whole of which rise to the height of seven feet and is finished with a plate rack. China closets are built in two corners of the room, and the other attractive feature of the room is the open fireplace, which has facings of Welsh tile and a mantel in harmony with the treatment of the room. The butler's pantry is fitted with sink, drawers, dresser, cupboard complete. The servants' hall, which is placed between the dining-room and kitchen, is a new and an important feature of the modern up-to-date house. The kitchen is fitted up complete with all the best modern conveniences, and a feature of this apartment is the roof lines, which form the ceiling of the kitchen, and affords ample ventilating space.

The second story is trimmed with white pine treated with white enamel. This floor contains a morning room, five bedrooms, each provided with a large closet, and three bathrooms. The latter have tiled wainscoting, paved floor, and each is furnished

with porcelain fixtures and exposed nickelplated plumbing. A private stairway leads from the first story to the third, which contains five servant bedrooms and bath, and a large trunk room. A cemented cellar contains the heating apparatus, fuel rooms, laundry, etc. Mr. Charles Barton Keen, architect, 1604 Chestnut Street, Philadelphia, Pa.

The printed chintzes, cretonnes, dimities, and other cottons for summer draperies are prettier and cheaper this year than ever. Some very beautiful Japanese cotton crêpes have come in. They are the familiar blue and white, which is about as cool a combination as can be made, and there are others in green, yellow, soft violets, and reds. One pattern of iris in natural tones is exquisite, and there is a cool green and brown pattern of woodbine leaves through which birds fly and rest which is a joy to the eye.



GARDEN VIEW PLAN—"GREY CRAIG," NEWPORT, R. I.

"MILL-BROOK," THE COUNTRY ESTATE OF F. KING  
WAINWRIGHT, ESQ., AT BRYN MAWR, PA.

MILL-BROOK, the country estate of F. King Wainwright, Esq., at Bryn Mawr, Pa., is the subject illustrated on the cover and on pages 91, 92, and 93. It is thoroughly Elizabethan in style. Its quaint windows and wooden shutters, its stone and half-timbered work, its elongated effect, and the kitchen extension are particularly characteristic of this style of architecture.

The underpinning and the first story are constructed of local field stone laid very carefully, and with broad, white mortar joints. The remainder of the building is of half timber work, forming panels which are filled in with rough plaster cast. This plaster is left in its natural soft gray color, and the half timber is of hewn chestnut and stained a soft brown color. The roof is covered with cypress shingles and stained a dark moss green.



### THE SUMMER HOUSE OF D. C. PERCIVAL, ESQ., AT MARBLEHEAD, MASS.

THE summer house of D. C. Percival, Esq., at Marblehead, Mass., is illustrated on pages 102 and 103. The underpinnings and chimneys are built of rock-faced field stone laid up at random. The remainder of the building is of wood, and the exterior framework is covered with shingles and left to weather finish, and the roof is also treated the same. The trimmings are painted a bottle green and the sash white.

The hall is a central one, and it is trimmed with whitewood painted old ivory white, and has an ornamental staircase of Colonial style with a mahogany rail, ample coat closet, and lavatory. The ceiling is provided with heavy constructional beams. The alcove is separated by an archway, which is supported on columns with spindle balustrade between the same.

The drawing-room and library are also treated with ivory white paint, and both have bay windows with paneled seats. The drawing-room has an open fireplace built of red brick, with the facings and a hearth of the same, and a mantel of Colonial style. The library has an open fireplace built of field stone laid up in a rough manner, with a stone shelf, etc.; book-cases are also built in.

The dining-room is trimmed with whitewood stained and finished in a forest green, and it has an open fireplace built of red brick, with the facings and a hearth of the same and a mantel. Paneled seats are placed on either side of the fireplace, and a high paneled wainscoting and ceiling beams of massive construction are the features of this room. The butler's pantry, kitchen, servants' hall, and their dependencies are trimmed with North Carolina pine, and each is furnished with all the best modern conveniences.

The second floor contains an open hall, six bedrooms, nine closets, linen closet, dressing-room, and three bathrooms furnished with porcelain fixtures and exposed nickelplated plumbing. Two of the bedrooms have open fireplaces. The entire floor is trimmed with whitewood treated with ivory white paint. The third floor contains the servant quarters and ample storage space. A cemented cellar contains the heating apparatus, fuel rooms, laundry, storage space, etc. Mr. Edwin J. Lewis, Jr., architect, 9 Park Street, Boston, Mass.

### A HOUSE AT WOODMERE, L. I.

On page 100 will be found an illustration of a house built at Woodmere, L. I., for the Woodmere Land Association, of which R. L. Burton, Esq., is the owner. The house is Colonial in style. The underpinning is built of red brick, and the superstructure, of wood, is covered on the exterior with clapboards 1 in. x 11 in., with 1 in. rabbet and laid 10 in. to the weather. The clapboarding is painted a Colonial yellow with ivory white trimmings. The blinds are painted green. The roof is covered with shingles and is left to finish naturally. Dimensions: Front, 49 ft.; side, 48 ft. 6 in., exclusive of piazza. Height, cellar, 7 ft.; first story, 10 ft.; second, 9 ft.; third, 8 ft.

The reception hall is trimmed with white pine and is treated with white enamel. It has a beamed ceiling and contains an ornamental staircase. The living-room is trimmed with white pine, treated with white enamel, and it has an open fireplace built of Roman brick, with the facings and hearth of the same and a mantel shelf of limestone. The French windows on either side of the fireplace open into a sun parlor, which has been provided by enclosing the piazza with glass.

The dining-room is also trimmed and treated the same as the living-room, and has a bay window at the front with a paneled seat, and an open fireplace built of red brick, with facings and hearth of the same and a mantel of Colonial style. The butler's pantry is fitted up with drawers, dressers, sink, etc. The kitchen, laundry, and servants' dining-hall are treated naturally, and each is furnished with the best modern conveniences. The servants' porch contains an outside entrance to the refrigerator, while the ice box is placed in the butler's pantry.

The second story is trimmed with pine, treated with ivory white, and contains two bedrooms, dressing-room, and a bathroom, and three servant bedrooms and bath. The bathrooms are treated with white enamel, and contain porcelain fixtures and exposed plumbing. The third floor contains three bedrooms, bathroom, and a trunk room. A cemented cellar contains a furnace, fuel rooms, etc. Mr. Frank Cottor, architect, Woodmere, L. I.

### RESIDENCE OF W. F. DORFLINGER, ESQ., AT ESSEX FELS, N. J.

THE residence which is illustrated on page 99 has been built for W. F. Dorflinger, Esq., at Essex Fells, N. J. The terrace wall and the first story are built of rock-faced field stone laid up with wide mortar joints of white cement. The second and third stories are covered with white cedar shingles left to weather finish naturally, and the trimmings are painted white. The roof is covered with shingles and is stained a moss green. Dimensions: Front, 76 ft.; side, 82 ft., exclusive of porch and terrace. Height of ceilings: Cellar, 7 ft.; first story, 9 ft. 6 in.; second, 8 ft. 6 in.; third, 8 ft.

The hall and reception-room are trimmed with white pine and treated with white enamel, and each is separated, one from the other, by columns of Colonial style supporting an archway of elliptical form. The stairway is recessed, with an archway separation, and is of Colonial character, with a mahogany rail. A toilet is conveniently placed beneath this stairway.



MELON HOUSE ON THE ESTATE OF D. O. MILLS, ESQ., STAATSBURG, N. Y.

The library is trimmed with antique oak, and it has a fireplace built of Pompeian brick facings and hearth and a mantel of oak. The dining-room is also trimmed with oak, and has a plate rack placed seven feet from the floor. The kitchen and laundry are trimmed with white pine, and each is furnished with all the best modern conveniences.

The second floor is trimmed with white pine, treated with white enamel, and contains a large living hall, five bedrooms, and two bathrooms, the latter being fitted with tiled wainscoting and paved floors of tile and porcelain fixtures and exposed nickelplated plumbing. The third floor is trimmed with white pine and finished natural, and it contains four bedrooms and bath and one large trunk room. A cemented cellar contains a furnace room, fuel rooms, etc. The house was built by Messrs. Wendell & Treat, of Essex Fells, N. J., and was designed by Mr. Laurence Visscher Boyd, architect, Harrison Building, Philadelphia, Pa.

### MELON HOUSE ON THE ESTATE OF D. O. MILLS, ESQ., AT STAATSBURG, N. Y.

A most novel feature of products on the D. O. Mills estate is that of the raising of the muskmelon for winter use.

The accompanying engraving illustrates the manner in which Mr. Mills' gardener propagates them for his table throughout the winter months, which is, indeed, quite a novelty, and only known to be practised by him of the many wealthy residents of the Hudson. The seeds are planted in pots in September, and as

they begin to mature they are transplanted in beds beneath the glass roofs of his muskmelon house. As the melons grow they are supported by strings of fiber to hold up their great weight until they ripen and are fit for use. When this picture was photographed by the artist, Mr. Burger, of Poughkeepsie, N. Y., these vines contained one hundred and forty-six melons, many of which were ripe. This house produces two crops during the winter months. The first crop becomes fit for use about the beginning of the holidays; the second, about the beginning of March, or a little later.

### A HOUSE AT BENSONHURST, L. I.

THE house illustrated on page 94 was built for Gilbert T. Reeder, Esq., at Bensonhurst, L. I. The building is of brick and shingles. The underpinning and the first story are built of sand washed red brick laid in red mortar, and the second and third stories, of wood, are covered with shingles, which are stained a soft red color, and the trimmings are painted white. The tower is beamed, forming panels, which are filled in with plaster, which is tinted a yellow, while the woodwork is painted white. The roof is covered with shingles and is stained soft green color. Dimensions: Front, 42 ft.; side, 45 ft., exclusive of piazza. Height of ceilings: Cellar, 7 ft.; first story, 9 ft.; second 8 ft. 6 in.; third, 8 ft.

The first story is trimmed with oak, except the reception-room, which is treated with old ivory white and gold. This room is a very attractive one, and has a low Colonial wainscoting and an open fireplace, with facings and a hearth of white enamel tile and a mantel of Colonial style, and finished with white and gold treatment.

The main hall contains a lobby with paneled seat and an ornamental staircase turned out of oak. This hall has a paneled wainscoting. The living-room has a paneled wainscoting and an open fireplace built of Roman brick with facings and a hearth of same and a mantel. The dining-room has a beaded wainscoting in the sixteenth century style, which is finished with a plate rack and shelf. The ceiling is furnished with ceiling beams. The butler's pantry, kitchen and its dependencies are fitted up complete, and trimmed with North Carolina pine and with white glazed brick at fireplace. The floors of this story are laid with maple.

The second story is trimmed with cypress and contains four bedrooms, one dressing-room, and a bathroom fitted with a tiled wainscoting five feet in

height, above which the walls and ceiling are enameled, and porcelain fixtures and exposed nickelplated plumbing. There are two rooms and a trunk room on the third floor. A cemented cellar contains the laundry, furnace, fuel rooms complete. Cost, \$6,000 complete. Mr. C. Schubert, architect, Dyker Heights, Brooklyn, N. Y.

### A GROUP OF ENTRANCES.

No feature of the grounds of an extensive estate is so important to the outside public as the entrance. It sets the keynote of the whole of the sacred territory within, and is often the only spot from which a view of the interior can be had. A well made entrance, and a well kept one—and fortunately the two are generally combined, is a most important feature in all estate work.

That the entrance itself needs only to be well laid out and agreeable in a general sense is apparent from the illustrations given on page 101. Nothing could be simpler than the materials there shown. A rustic fence, with two simple rustic flower boxes, forms the motif of one design; a simple pyramid of stone forms the feature of another; and the third example, while somewhat more pretentious, is simply a low stone wall, with a decorative vase at the end, and two higher pedestals for the wrought iron lamps further back.

These illustrations are gathered from Bar Harbor, Maine, and constitute the entrances to the estates of Messrs. W. C. Morgan, A. C. Gurnee, and E. C. Cushing. They are not only good examples of the fine taste shown in laying out these estates, but they are useful and suggestive helps in the treatment of ground entrances.





## ROOM ARRANGEMENT.

A SHREWD observer, some time ago, pointed out the value of changing the position of the articles of furniture in one's room. The thought is a happy one, for sameness of arrangement, the same old things in the same old places, is often conducive to mental weariness. Furniture, in a proper sense, is an aid to comfort and convenience. Its object is not to fill up a room with so many tables and chairs, but to provide means of utilizing the room. Yet there is a certain comfort in feeling instinctively, as one enters a room, that one knows just where the best chair is, or where the table is on which certain desired articles can be found. Changing the position of things gives a new life to the room, and even if it does no more than satisfy one with the previous arrangement, it accomplishes some good.

## SUMMER FURNITURE.

EVERY summer brings its new furnishings, and much of it is very pleasant and delightful. There are always many new people setting up housekeeping each summer to meet a steady supply of new things. Old ones wear out; one's habitation is changed; perhaps a new chair or table, a sideboard or bookcase that could not have been afforded last year can be purchased this year.

And very pleasurable such purchases are, with the tasteful new articles to be found in every shop. Even the department store is not without its attractions, although the careful shopper of furniture, the shopper who knows good furniture, who appreciates graceful lines, pretty fabrics, and withal has an eye to strength and utility, will be chary of buying simply because the goods are cheap.

One special delight in summer furniture is its confessed simplicity. Why winter furniture can not be equally simple, unpretentious, and direct the furniture philosophers do not say. But it has become the fashion to expect nothing at all in the way of summer furnishings, and the very natural result is very simple, direct styles have come in. Light chairs of cane and wicker and reads, flimsy curtains, gay chintzes, delicate fabrics, low in tone but beautiful in color; all these are characteristic of the summer time, and furnish the summer house very beautifully and well.

## A HOME-MADE FLY SCREEN.

AN ingenious farmer's wife who succeeds in keeping the flies out of her kitchen says that she makes a long wad of newspapers and slashes the edges half-way down. She holds the unslashed ends in her hand and whisks out the flies with the other. She says it is surprising how quickly the flies will be driven out. The noise of the rattling strips of paper, she claims, helps to do it as well as the whisking. Whether this be true or not, this whisk is a very effective one, and not a fly will be found in the room after it has been energetically used.

Fly paper is generally considered by people of refinement as something to be avoided. It is known to draw more flies to its vicinity than it ever kills, especially if an outside window or door be left open.

## A NEW FOLDING-BED.

A NEW folding iron bed is described in which the head and foot boards fold together accordion fashion, and the bed stands flat against the wall. The bottom is concealed behind a drapery of dark green or blue saten, and there is a valance of the same material. Thus when the bed is folded it looks something like a large screen.

## JAPANESE MATERIALS.

THE Russo-Japanese war has had a singular result in increasing the popularity of Japanese materials for decorative purposes. Apparently an article or a bit of goods has only to bear evidence of genuine Japanese origin to win commendation.

Among the favorite novelties, says a contemporary in commenting on this state of things, is a Japanese material known as anatolia. It is formed of stripes of raised work in a pale color on a white ground. The prettiest, coolest, and most inviting looking cushions of the season are those covered with this material. With the top of anatolia the cushions are trimmed with a deep frill about five inches in width, at the edge of which are knotted alternate vandykes of tassel-trimmed handmade net and cords ending in tassels—a group of eight or nine tassels, then a netted vandyke, and so on.

Anatolian curtains, like the cushion coverings, are exceedingly dainty because they are washable. They are trimmed at the top and bottom and the inner edge, like the cushions, with vandykes of netted work, alternating with groups of cords and tassels. Many of these curtains show crossbars of pale green, yellow, red, and blue.

There is a narrow-width border material that comes about twelve inches wide in what is known as cotton crape—one of the most attractive Japanese textiles. The colors are soft and pleasing, and since its decorative possibilities have been appreciated it is used in many ways besides bordering and trimming.

Effective long curtains and dainty sash curtains are made of these crapes by joining the Japanese border crapes in color alternately with stripes of plain white cotton crape or crocheted insertions and laces. The seams are attractively finished by feather-stitching in ingrain cotton.

## A BUNGALOW AT PREMIUM POINT, NEW ROCHELLE, N. Y.

The illustrations shown on page 95 present a bungalow built at Premium Point, New Rochelle, N. Y. The building is erected on an island which is connected to the main land by a bridge, as the illustrations show. The whole characteristic of the site is rustic, and the house and all the improvements are carried out in a similar manner and in keeping with the surroundings.

The exterior is covered with tree slabs, placed in position with the bark on them, and the whole resting on a field stone underpinning. The roof is covered with shingles left to weather finish. All the rooms are placed on the first floor, and the entrance door, which is composed of batten strips fastened to gether and hung with massive wrought iron hinges, forms the entré to the hall, from which the living-room is reached. This living-room is treated with exposed timbers, rough hewn, and of yellow pine, and the whole stained a golden brown color. The ceiling extends to the peak of the roof. The open fireplace built in the corner of the room is treated in the Norwegian style, and is constructed of red brick and surmounted with an immense wrought iron hood supported on iron columns. The dining-room is recessed into an alcove, and beyond this there is a well fitted pantry, kitchen, laundry, servants' porch, etc. Over the kitchen there is a bedroom for the servants reached by a stairway from the kitchen.

The other wing of the house contains three bedrooms, fitted with good closets, and a bathroom provided with unique fixtures, etc., in character with the house. All the doors are of battens, and all the partitions and ceilings are of yellow pine, stained a golden brown color. Mr. Grosvenor Atterbury, architect, 20 West Forty-third Street, New York.

## RESIDENCE OF HENRY BLAKE, ESQ., AT QUOGUE, L. I.

On page 98 will be found illustrations of the summer residence of Henry Blake, Esq., at Quogue, L. I. The building rests on cedar posts with stone footings. The exterior of the house is covered with matched sheathing and then with white cedar shingles, which are left to weather finish; the under side of eaves is of yellow pine, and is also left to weather finish. The window sashes are painted white and the blinds are painted bottle green. The roof is also covered with shingles. Dimensions: Front, 61 ft.; side, 96 ft., exclusive of piazza. Height of ceilings: Cellar, 6 ft. 6 in.; first story, 10 ft.; second, 9 ft.; third, 8 ft.

The living-room, library, den, and dining-room are trimmed with chestnut and stained a Flemish brown, and it has a waxed finish. The living-room has an open fireplace built of red brick, with the facings and a hearth of the same, paneled seats on either side, and a staircase treated in an attractive manner. The ceiling is beamed, and the plaster panels are treated with water color, cream in tone.

The library has an open fireplace built of brick to the underside of mantel shelf. The den is conveniently located, and has an outside entrance thereto; in fact, all the principal rooms of the first story have French windows opening out on the broad piazza.

The dining-room has a battened wa'scoting to the height of six feet, finished with a plate rack. The butler's pantry, the kitchen and its dependencies, and the remainder of the house are trimmed with North Carolina pine. The former are fitted with all the best modern conveniences complete. Beyond the kitchen there is provided a servants' dining-room and bath. There is a servants' porch, beyond which there is a laundry, man's room, storeroom, and fuel shed.

The second story contains six large bedrooms furnished with ample storage and a bathroom fitted with porcelain fixtures and exposed nickelplated plumbing. The third floor contains the servant quarters and ample trunk room. There is a cellar under the kitchen extension. Mr. H. P. Kirby, architect, 23 West Thirty-fourth Street, New York.



## TIME IN GARDEN GROWING.

IN these rapid American days, when one must have a thoroughly equipped and amply grown garden ready and in order at the very time one moves into one's new house, the value of time as an element in garden growing and garden making is apt to be lost sight of. A garden, of course, is an indispensable adjunct of every well ordered suburban and country house, and the sooner it is begun the better it is for the owner and the neighbors, to say nothing of the stranger without one's gates. But the rapidly begun garden is only begun; it is time that makes it beautiful.

A few years makes a very considerable difference in even the smallest garden. What can be expected of a garden that has been planted and tended for fifty years, a hundred years, two hundred, three hundred? We have none of the latter class in our country, for three hundred years ago our ancestors were busy with other things than the planting of flower gardens, while it is the solemn truth that only a few of them had arrived at that distant date.

Europe, however, both England and the Continent, abound in such gardens, and much of the beauty we enjoy in these ancient estates to-day is due to their prolonged cultivation. Think what can be done with a lawn that has been grown and mowed for two centuries! We try as best we can, with our rapid methods, to make up for lack of time in growth; we sometimes think we accomplish a good deal, and that, of course, is true; but after all the Old World gardens have the advantage of ours in the matter of continuous growth and continuous care.

## GARDEN ORNAMENTS AGAIN.

A CORRESPONDENT writes to call our attention to what he regards as a discrepancy in the notes in this column. A short time ago (March) we took occasion to comment on the horrors of superabundant garden ornaments, and then calmly quoted a description of a foreign garden in which many decorative features abounded. Our correspondent thinks we should be consistent in our remarks, and not recommend one thing in one paragraph and condemn it in another.

He is quite right in that, but there was no inconsistency in the case to which he refers. Perhaps our remarks on garden ornaments were not quite definite enough, and we did not clearly express what was in our mind. Let us say frankly that the paragraph in question was inspired by the sight of two green cast iron lions peacefully slumbering beside the steps of a wooden house. Anything more out of taste than such garden additions it would be hard to imagine. Apparently, the person who put these green lions in place thought that if there was anything better than two green lions it would be three, or possibly four.

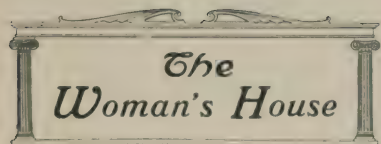
It is such so-called garden ornaments we had in mind when we urged the folly of their use. The gardens of the Old World are quite a different matter. It is true that in the old formal gardens there is an abundance of ornaments, of benches, statues, vases, and other architectural features. But most of these gardens are large, and of a size quite exceeding the mimic gardens wherein Americans are apt to set up their lions and vases of cast iron. Moreover, the ornaments of European gardens are, in most cases, real works of art, not always of a high grade, but far in advance of the machine finished products which are favorites in America. It is obvious, we hope, that one series can be condemned and the other commended without any inconsistency, apparent or otherwise.

## GARDEN WORK.

THE garden season is on, and the spade and the rake are busy in the land. What is done now is done for all summer, and work neglected at this time can never be made up during the present season. Owners of large estates, supporting a corps of trained gradeners, are never at a loss how to proceed or what to do. In such places the garden work is planned ahead for several years, and is never completed. But the small garden is a very different matter. The spring is a season of trial to the beginner, because he often wants to do so much, and finds even a part of what he plans a heavy task.

And, in truth, there are few harder sorts of work than digging with a spade, although the lawn mowing is often a good second to it. The safest plan is not to try to do too much. But be sure to do something. The more one does, the more one will enjoy the result of one's labors; and of garden work, as of most other kinds, it is impossible to obtain results without effort.





## THE WOMAN'S HOUSE.

THERE are not many points at which the woman's house—the house built expressly for woman's occupancy and use—differs from the average house, intended for family use. Occasionally, however, a house is designed and built especially for woman's occupancy, and it sometimes happens that such houses have some qualities of their own. Generally speaking, however, the chief difference between a woman's house and a family house is in the furnishings and the decorations. A house built by a woman for her own use and lived in by her is very apt to have a daintiness and orderliness which do not obtain in a dwelling occupied by several persons, each of whom may have an individual taste, or, as is too often the case, none at all.

## A WOMAN'S BUNGALOW.

A NEW YORK paper, a short time since, printed an account of a woman's bungalow near Asheville, N. C., which is worth reproducing. As is often the case, the owner began the work with no knowledge of building or building materials, nor of the best plans to buy the latter. Everything had to be ordered by mail and sent by freight, and then hauled over indifferent roads about two miles, so that the expense of getting proper materials on the spot was more than doubled. The total cost is, however, said to have been only \$225.

A plot of land in a sheltered valley, giving fine views of distant and near peaks, just opened to settlement by a small colony of cultured Northern families, was obtained for a nominal sum. Only one of the available carpenters could read or write, and he possessed merely the rudiments of a primary grade.

The floor space of the house was a square, divided into kitchen and living-room on the right of the entrance. At the left the bedroom, with a closet and a pantry, occupied two-thirds of the space, and the remainder was given up to the piazza. The roof was high pitched, stained red, and the walls painted yellow.

There were rough stone foundations, laid in mortar, that cost only the price of the labor for getting out and hauling to the spot, or twenty cents an hour for a man and a two mule team. A chimney of the same rough stone, with a large open fireplace, would have cost too much. So a brick flue, reaching down to the ceiling, and there receiving the pipe of a utilitarian wood airtight heater, was built as much cheaper, and giving more heat.

The external walls were covered with upright boards eight inches wide, with a narrow strip covering the joining, laid over heavy red resin sized paper, that in turn was laid over broad boards, that formed the interior walls.

The sunny living-room had three windows, commanding the best points of the mountain views. Two corners were cut off, giving a bay effect to the front of the room and a cross view from one window and the glazed door leading to the tiny piazza, adding space to the latter without deducting anything appreciable from the room. This feature also added to the picturesqueness of the exterior. Opening on the living-room was a good sized bedroom, with space for two single beds, for her companion and self, and the usual furniture, and having a commodious closet. A glass door, or "shelter," as the carpenter called it, opened on the piazza, and added much to summer comfort.

The kitchen was as compact and as convenient as a ship's galley, full of shelves and ingenious contrivances to save steps and increase storage space.

Opening from it was a small pantry, with a screened window cupboard for cold storage. The lower half of the window was hinged to open inward. Outside of this sash was built a box frame almost ten inches deep, having a front of fine wire fly netting, three shelves well placed on it, making a cool, airy place for milk, eggs, or cooked food.

The piazza floor was flush with the top of a broad, flat rock of blue limestone, that added considerably to its extent and effectiveness. A clump of young dogwood grew at one side, while persistent ebony spleenworts raised clusters of graceful, slender fronds from many a crevice. At the base of the rock grew evergreen Christmas ferns and galax, while some shy pink arbutus gave promise of midwinter loveliness. This rock made a charming extension on warm afternoons. At the rear, with a door from the kitchen, was a shed porch that gave shelter to the usual array of domestic utensils.

CANDLESTICKS of sealing wax, red, bright yellow, grass green, and blue, in enameled tin, are made for the summer home.



## TREE PLANTING FOR HIGHWAYS.

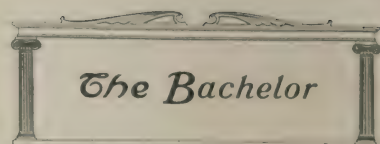
TREES, says Mr. William F. Fox, Superintendent of State Forests, in a pamphlet on tree planting, should be set along every road for shade. In addition, the farm lines can be marked advantageously with fruit-bearing or nut-bearing trees that will bring money to their owner and add to the attractiveness of his surroundings. Objections may be made in certain localities to placing trees along a public road, because their shade would tend to make it wet and muddy. If such conditions exist, the fault is in the road, and not in the trees; there are some very muddy highways along which nothing has been planted. Although a row of trees may retard somewhat the evaporation of moisture at the surface of the roadbed, at the same time they drain its foundation by the rapid absorption of water through their roots. When a roadbed is properly constructed, drained, and ditched, the trees will do no harm; on the contrary, they will furnish a grateful shade to the traveler and prevent dust without creating mud.

There are roads along which no trees are allowed, because some resident argues that the sun is needed to dry up the mud and sloughs which in spring make traveling slow and difficult. But in summer the sun-baked mud is pulverized under the wagon wheels, creating clouds of dust that are worse than mud. With a well-built highway, shaded by trees, both of these nuisances would be avoided. Even a poor road will permit of one row of trees, which should be placed on the south or west side, as its direction may require, to temper the heat of the afternoon sun.

Nothing has been found that will equal the American elm and hard maple for wide roads and double rows. The elms should be at least seventy feet apart, as they often attain a spread of 100 feet, and the trees should not be allowed to crowd or interfere with each other until they assume their full size and natural shape. Transplanted or second growth hard maples along a country road attain a large size and beautiful appearance, which require a fifty-foot space. Other species—oak, basswood, white ash, locust, willow, horse chestnut, black cherry, button-ball, beech, and the two soft maples—can be used with good results to obtain variety. It is also suggested that by planting the scarlet oak, red maple, and pepperidge the brilliancy of the autumn coloring may be enhanced by the bright reds displayed by the leaves of these species. The birches, and especially the yellow birch, are not desirable for streets or roadside use, as they assume a different form when grown in the open instead of the forest, the branches growing lower and the trunk failing to reach its usual height, although it may attain a large diameter. Nut-bearing trees, the chestnut, butternut, and the hickory are also available for highway planting.

There are many reasons, says Superintendent Fox, why trees should be planted in cities and villages. During the hot days of summer the streets which are shaded by trees are preferred to those which lack this protection. The temperature is much lower; and as the pavements are not exposed to the glare of the sun, there is less of reflected heat. The streets that are lined with shade trees are more attractive to the eye; and their superiority is readily apparent when compared with those on which there are no trees. The shaded streets being cooler they are more desirable for residences, and other things being equal, property is more valuable and commands higher rents. The air is purer by reason of the foliage, which inhales carbonic acid and exhales oxygen. The leaves absorb the poisonous gases generated in hot weather by the decomposition of animal and vegetable matter, and thus an active source of disease is eliminated. During hot summer days the diseases incidental to that season are not so prevalent in streets and localities which are protected from the heat of the sun by large overhanging trees.

In street planting the trees should be placed with reference to the room they will need when fully grown, rather than with reference to the lot boundaries; otherwise, there will be irregularity, overcrowding, and unoccupied spaces. The average city lot is too narrow to permit a tree on each, and so the proper spacing on a block must be determined irrespective of the wishes of the property owners, each of whom might want a tree in front of his house. If a block is fully planted, the trees on one side of the street should stand opposite the spaces on the other side. Planting at half distance, with the intention of removing every other tree in time, is sometimes done in order to obtain more shade at the start.



## THE BACHELOR'S HOME IN NEW YORK.

IT is possible for the bachelor in New York to be much more comfortable nowadays, says the Sun, than he was formerly, and at little or no increase in price.

Take the typical landlady of a men's lodging house ten years ago. She hired a servant of the cheapest possible grade, and furnished her rooms as meagerly as she could and yet got lodgers. Sometimes she gave them coffee in their rooms, although in nine cases out of ten they preferred not to tax the resources of her establishment to that extent. Her service ended there.

In many cases this landlady was a dressmaker and rented her upstairs rooms to enable her to live in a fashionable neighborhood. In such a case the bachelor who lodged with her was likely to have even less comfort than in the care of a professional landlady.

Then came the great increase in the number of bachelor apartment houses. In the new places built for them, tenants had the attendance of a valet, there were men in the house to wait on them at all hours, and there were, above all else, private baths as an understated feature of all the suites, and even of one room. Then came the use of the telephone in every apartment.

To meet the competition the professional landlady supplies nowadays as many of these conditions as she can. In some cases the lodging houses of the old type are still prosperous. But these houses are about as expensive in price as the best of the bachelor apartments, over which they possess only one advantage—to the bachelor not a very important one—they have larger rooms.

A furnished room in a made over house of this kind can not be had for less than \$15 a week. When the hall room is included, the price will probably be more by \$5 or \$7. A single room on the second floor with a small bath built in the closet will cost \$15, or \$12 at the least.

Attendance is better than it was in the past, but it is rarely so good as that to be found in the apartments, and practically comes to an end at 10 o'clock; whereas in the other houses it lasts all night.

Some of these houses are, nevertheless, very comfortable, and the landladies are able to get high prices. One in the Fifties is typical of the best of this kind.

It is a large twenty-five foot house with bathrooms added to the rooms on each of the three floors. There is a Japanese valet, telephone service in the house, but not in the rooms, and breakfast of coffee, rolls, and eggs for thirty-five cents.

The rooms on the first floor rent for \$25 a week. The two large rooms on the floor above are \$20 and \$18. No rooms are let for less than a year.

In one of the Thirties is a popular house where the prices are even higher. There a large room, two small rooms (really an alcove and a hall room), and a bathroom rent for \$1,100 a year, and they are unfurnished at that. This house has electric light and no telephone.

Bachelor apartments can, of course, be rented for almost any price that the tenant is able to pay. The most expensive house in the city will let two rooms, a good sized sitting-room and a small bedroom and bath for \$1,500 a year. That is, of course, without furniture, and this house, for the sake of sticking it on a bit, charges extra for light and heat, although attendance is included and there is a telephone in each apartment. This rent is the cheapest in the house. Some of the apartments cost \$4,500, but the difference is only in the number of rooms.

But these are the highest priced abodes for the single man. It is possible to get unfurnished in the best neighborhood in the city a bedroom, sitting-room, and bath for \$50 a month. In less desirable regions the same rooms may be had for \$10 a month less, and may even be had furnished over toward the West Side for that amount.

## PURE AIR.

THE best air we can obtain is that which is floating over the oceans, and contains in varying volumes 2.66 to 3.12 vols. of CO<sub>2</sub> per 10,000 vols.; we may at once ask, What is the relative purity of the air we ordinarily breathe? An authority states that air is:

"Pure" to breathe when it contains 5 to 7 vols. of CO<sub>2</sub> per 10,000.

"Passable" to breathe when it contains 7 to 10 vols. of CO<sub>2</sub> per 10,000.

"Bad" to breathe when it contains 10 to 20 vols. of CO<sub>2</sub> per 10,000.

"Very bad" to breathe when it contains 20 to 40 vols. of CO<sub>2</sub> per 10,000.





### WATER SUPPLY FOR SMALL TOWNS.

ONE of the first questions to be answered is as to the amount of water required to supply the present and future demands of the town, so as to avoid the expense of additions to the plant before many years have gone by.

The New England waterworks association gives the daily per capita consumption of water by fixtures in gallons as follows: For each faucet, 7 gallons; for each bath, 3.5 gallons; watercloset, 7.5 gallons; hose, 1.1 gallons; stores, 3.5 gallons.

From the above, based on actual, everyday service (which is the only correct method of ascertaining the amount of water used), for domestic use: A family of five persons will require 35 gallons, or 100 families, 3,500 gallons. With bathtub, 52.5 gallons; or 100 families, 5,250 gallons. A family of five persons, with bathtub and closet, will use daily 87.5 gallons, or 100 families, 8,750 gallons; stores, with five persons, 17.5 gallons; stores, with closets, 52.5 gallons; 100 stores, five persons, 1,750 gallons; 100 stores, with closets, 5,250 gallons. Taking the above as a basis for calculation, it is necessary to ascertain the number of connections to make a fair approximation of the amount of water required. In such a town as has been referred to only 100 connections would probably be made the first year—possibly not more than 250 in the first five years. Estimating on 250, and allowing fifty gallons per day for each connection—an excessively liberal allowance over the above figures, which are based on actual measurement—the amount required daily for domestic purposes would be 12,500 gallons.

The next question to be considered is the quality of the water—the source of supply. The most important point to be considered is its purity. The health of the inhabitants takes the first place; the location, its convenience of access, and the quantity obtainable, the second. The River Pollution Commission, of Great Britain, after years of investigation on the subject, summarizes as follows the various sources of supply: "Wholesome—springs and deep wells; suspicious—surface or stored rain water; dangerous—river or creek water and shallow wells." In the other and more settled portions of the United States the question of pure water supply for towns has received considerable attention in later years, and it has been considered of such vital importance to the public health that several States have taken the matter up as a question pertaining to the public welfare which the State should look after and regulate. Commissions have been appointed to examine and report on the healthfulness of the water supply of the towns within their respective jurisdiction. The results have been very beneficial from a sanitary standpoint, the disease and death rate being from twenty-five to forty per cent. below the rates prevailing before the commissions were created.

The consulting engineer should be careful in adopting or recommending the source of supply. Branches or small creeks are classed as the most dangerous, and he should under no circumstances recommend them, unless he also recommends some system of filtration. As water supply systems from small streams are usually constructed, the impounding dam in the stream forming the reservoir or pumping basin is simply a catch-basin for all the filth that enters from above. The drainage from such source of supply catches all the filth deposited on the area drained and carries it to the reservoir. Dead animals are often to be found on such a watershed, where they are allowed to putrefy, and the rains finally carry the debris to the stream. Vegetable matter of every description growing on the watershed finally decays, and finds its resting place in the reservoir. Thus the reservoir soon becomes a mass of decayed and decaying filth, and will carry the germs of several cases of typhoid fever to each gallon of water it contains. In summer, when the water gets low or diminished in quantity, such a source of supply becomes most dangerous to health, and under no circumstances is it fit to be used as a water supply.

A water supply obtained from a large stream has in the past been considered satisfactory. As the country becomes more thickly settled, however, the sewage from the towns and refuse from manufacturing plants, which discharge their wastes and filth into such streams, are a serious source of contamination; and it becomes a matter of serious doubt whether any running water is fit for a city water supply, unless the water is subjected to an efficient system of filtration.

The water from springs, if of sufficient quantity and within a reasonable distance of the town, can generally be used for a water supply with safety, unless it has become impregnated with mineral matter injurious to

health. If a sufficient supply can not be obtained from springs, it can usually be obtained by boring deep wells. The water obtained from deep wells can be safely classed as good, unless it contains objectionable mineral matter.

After the above information has been obtained and the pipe lines and the location of the same decided upon, it will be required of the engineer to make an estimate on the approximate cost of the proposed water-supply plant. To make the desired estimate, it is necessary that the engineer shall detail the cost of each item of material and labor that will enter into the construction of the proposed waterworks. The engineer must be perfectly familiar with the cost of machinery and material of every description that it will be necessary to use in the construction of the proposed plant. The consulting engineer is often called upon to give the approximate cost of waterworks before any definite plan is agreed upon, or the details of the same are obtained. The engineer must make an estimate of the above kind from his previous experience and the cost of other plants constructed in like towns under similar conditions. The cost of a plant in towns of from 1,500 to 2,500 inhabitants will range, under favorable conditions, from \$15,000 to \$20,000; in a town of 4,000 inhabitants the cost would be about \$25,000; and in a town of 5,000 inhabitants the plant would cost about \$30,000. The figures given would apply only to compact and closely-built towns in which the water supply was obtained.

The local conditions may change the foregoing estimates materially, and the consulting engineer will have to make his approximate estimate to meet the local conditions in every case.

P. BRYNE, C.E.

### ELECTRIC LIGHTS IN THE HOUSE.

APART from the question of inefficient lamps, remarks a recent writer, one of the principal causes of dissatisfaction with the electric light is insufficient distribution of light. This is due to a variety of causes, the chief being ignorance or miscalculation on the part of those who lay out the installation, and fads on the part of the consumer. The small wireman of little experience, who dwells in small rooms himself and has failed to grasp any elementary rule for the proper distribution of light, is responsible very frequently for bad advice on this point. He has no knowledge of the fact that light decreases as the square of the distance, or that rooms with somber decorations require about twice as much diffused light to give a brilliant effect as those with light colors. Accordingly, if the consumer wishes lights put on the ceiling in a high room, up they go, or if the wall paper be of dark hue, no extra provision of lamps is made, and the result is dissatisfaction. A room sixteen feet high will require four times as many lights on the ceiling as a room eight feet high, in order to produce the same degree of illumination on the carpet.

Halls are usually fitted with lanterns which are so designed as to give as little light as possible. Smoked or opalescent glass is the fashion, and while this may look very quaint or antique, the lighting is necessarily poor. Halls are not required to be as brilliantly lighted as living-rooms, but they should have an aspect of cheerfulness, and nothing is better than red glass for this effect. The lantern should contain two or three eight candle power lamps, with two controlling switches, one lamp being used for ordinary occasions and the whole of them for festive times. As regards other passages, staircases and "offices," these are usually over-lighted. As a rule, five candle power lamps are quite sufficient, and for the bathrooms, etc., three candle power lamps will often suffice.

Many mistakes are made in the lighting of bedrooms, especially large ones. As a rule, it is considered the thing to have a one or two-light rise-and-fall pendant over the dressing table and a small pedestal lamp by the bedside, the rest of the room being in gloom. A bedroom should be well supplied with wall-plugs, one on each side of the bed and on each side of the fireplace; there should be a pendant in front of the wardrobe and a ceiling light for general illumination, with, of course, a switch for each fitting. One switch by the door controlling the ceiling light should betwo-way, and there should be another similar switch by the bedside, so that this light can be operated from either point. Servants' bedrooms should have one light only over the dressing table, with one switch by the door and as far from the bed as possible, so as to discourage reading in bed. Nurseries should only be illuminated by means of ceiling lights, preferably with metal reflectors and wire-guards, etc.; switches should be well out of reach, or of the keyless pattern.

There are certain conventional methods of lighting these rooms based on experience and fashion, but which may not always give the best results. The conventional dining-room has a rise-and-fall umbrella shaped silk shade which throws a white glare on the tablecloth, and brackets on each side of the buffet and chimney piece inclined at such an angle as to strike right into the diners' eyes.



### ARTIFICIAL COOLING.

THE weekly Scientific American prints an interesting communication from Mr. G. Epprecht, of Paterson, N. J., on the subject of artificial cooling and a new system of heating.

The subject of artificial cooling, he writes, is one of those that each summer arises anew and figures among the few that are felt as an incongruity in our age of high technical advancement. That an electric desk or ceiling fan does not only not cool the atmosphere of an interior, but helps to heat it through its rapid motion, is well enough known, but strong artificial draft continuously interchanges the hot air immediately surrounding the human body for cooler air and accelerates the evaporation taking place, especially on our faces, thus creating the sensation of cooling with which we satisfy ourselves.

Why are interiors not cooled effectively and in the same way as in heating? Cold, in the shape of ice, is a market article, very common and very cheap, and which is brought daily to everybody's house. A 100 pounds of it costs 20 cents, and with that amount 57,000 cubic feet of air can be cooled from 90 degrees F. down to 70 degrees. Such an expense apparently would be no hindrance to the practical introduction and general use of ice for cooling restaurants, residences, or any other interiors. But what has prevented up to the present time the utilization of ice for that purpose is the lack of the proper means for transferring the cold from the ice to the air. Experiments on a large scale conducted during last summer in cooling a store at 553 River Street, Paterson, N. J., have enabled the writer to convince himself and others of the perfect feasibility of the plan to cool any premises by the use of ice. An apparatus of extreme compactness, consisting of one or more segments, each of which represents an actual cooling (radiating) surface of 275 square feet with but 6 cubic feet of space displacement, cools the air driven therethrough by a blower, before delivering it to the locality to be cooled; where cold spring water is at disposal this will be sufficient to assure satisfactory results.

Any premises provided with such a cooling plant may with advantage be heated in winter by the very same means, i. e., the same apparatus and the same ducts, adding only a simple hot water heater and omitting the use of a fan. Such a system of heating would then coincide in principle with the well-known hot air furnace heating; however, without the latter's drawbacks of possibly overheating the air or deteriorating it in consequence of a leak in the furnace, since in the new system it is the hot water which heats the air. By means of the special above mentioned apparatus and its accessories—a fan and the hot water heater—a system of combined cooling, heating and ventilating is established, which, wherever the best of hygienic conditions are cared for or demanded, is unsurpassed, supplying an interior continuously with pure, dust and odor free air of a temperature that will insure perfect comfort both in winter and during the hot summer months.

### THE FURNACE WATER PAN.

The water pan should receive at least an annual washing and cleansing, and the summer is naturally the season when this very useful bit of work can be done. It should be thoroughly cleaned and scrubbed every year; a coat of whitewash is said to improve the process. To clean a permanently connected water pan a cork or corn cob should be placed in the pipe leading to the inside pan to stop the supply. The pan should then be detached and the inside scraped and washed.

### HEATING CAPACITY.

The close of the winter has been signalized by an outbreak of talk against our overheated houses, and suggestions that we borrow a friendly hint or two from the cool dwellings of Europe. The suggestions, it must be admitted, are more seasonable at this time of year than when the mercury is trying to find how far down it can go in the tube without bursting the bulb. Those, however, who have been fortunate enough to test the winter on two continents are likely to find a deal of comfort in our warm American houses. It is, however, very true that the average house is much overheated, and there is unquestioned room for much improvement in this respect. The householder, however, will do well to insist that his dwelling be provided with ample heating-capacity. When one wants heat one wants it badly, and in very cold, windy weather the most ample apparatus is often found inefficient. The need of heat is often so great that the additional cost of ample apparatus can safely be discounted.





The following list of New Patents relating to Building and Sanitary Science is prepared expressly for the SCIENTIFIC AMERICAN BUILDING MONTHLY by MUNN & Co., Solicitors of American and foreign Patents.

A PRINTED COPY of the specification and drawing of any patent in this list, or any patent in print issued since 1865, will be furnished from this office for 10 cents. If exact date or number is furnished. Remit to MUNN & Co., 361 Broadway, New York.

#### BRICK, STONE, AND TILE.

BUILDING BLOCK, J. D. Morrison, Reinbeck, Iowa, March 1	753,286
TILE AND TILE SETTING, J. H. Munro, New York, N. Y., March 1	753,287
BUILDING BLOCK, A. F. Hoffman, Pittsburg, Pa., March 1	753,491
FIREPROOF BUILDING BLOCK OR SLAB, R. Hlemann, London, England, March 1	753,707

#### CARPENTRY.

FRAME OR SASH FOR WINDOWS, H. Romlinder, Bloomington, N. J., March 1	753,315
REMOVABLE DOOR, J. R. Hussey, Indianapolis, Ind., March 1	753,378
WINDOW, G. Kabureck, Jersey City, N. J., March 1	753,379
WINDOW, H. E. Brown, Chicago, Ill., March 1	753,465
WINDOW FRAME AND SASH, A. K. Lovell, New York, N. Y., March 8	753,893
FLOORING END JOINT, M. A. Hayward, Columbus, Ohio, March 8	754,215
WINDOW, O. E. Chubb, St. Louis, Mo., March 15	754,425
WINDOW SASH, G. H. Lawrence, Middletown, N. Y., March 15	754,575
WEATHER STRIP, J. S. Senglar, St. Louis, Mo., March 15	754,819
SECURING STRIPS OF WOOD, ETC., TO IRON BEAMS, S. Davis, New York, N. Y., March 15	754,855
WEATHER STRIP, H. Eagon, Newcomersville, Ohio, March 15	754,857
WINDOW FRAME, T. F. Ware, Steamboat Springs, Nev., March 22	755,419
WEATHER STRIP FOR WINDOWS, J. T. Roberts, Claremont, Cal., March 22	755,552
WINDOW, H. E. Essig, Canton, Ohio, March 29	755,600

#### CONSTRUCTION.

STEEL-CONCRETE CONSTRUCTION, J. S. Metcalf, Chicago, Ill., March 1	753,603
SHEET METAL STRUCTURE, W. Schickel & Bourke, Chicago, Ill., March 8	754,270
SHEET FOR ROOF COVERING, W. H. Bache, Bound Brook, N. J., March 8	754,273
WALL STRUCTURE, P. J. McGuire, Blairsville, Pa., March 8	754,384
DOOR OR LIKE FRAME, E. Ohnsand, Jamestown, N. Y., March 15	754,492
MEANS FOR COVERING THE VALLEYS OF TILED ROOFS, W. Ludowig, Tockgrin, Germany, March 15	754,578
THREE BUILDING, A. Schlechter, Allegheny, Pa., March 15	754,711
STRUCTURAL ARRANGEMENT APPLICABLE TO FLOORING, ROOFING, ETC., E. L. Puse, Darlington, England, March 15	754,888
FLOOR JOIST HANGER, W. D. Dreyer, Cleveland, Ohio, March 22	755,116
BUILDING CONSTRUCTION, G. F. Fisher, North Norwalk, N. Y., March 22	755,122
NON-CONDUCTING WALL, H. H. Judson, Stratford, Conn., March 22	755,137
SHEET METAL REVOLVING WINDOW, J. T. Leonard, New York, N. Y., March 22	755,232
MANSARD FRAME FOR CRILING CONSTRUCTION, W. Gutzeit, Charlottenburg, Germany, March 29	755,915

#### ELEVATORS.

AUTOMATIC ELEVATOR RETARDING DEVICE, C. P. Hall, Chicago, Ill., March 1	753,570
DOOR LOCKED CONTROLLER FOR ELEVATORS, C. O. Barker, Sioux City, Iowa, March 1	753,572
SAFETY APPLIANCE FOR ELEVATORS, J. Cruickshank, New York, N. Y., March 15	754,432
SAFETY APPLIANCE FOR ELEVATORS, S. B. Trapp, New York, N. Y., March 22	755,189
SAFETY DEVICE FOR ELEVATORS, P. Blanding, Brookton, Mass., March 29	755,736

#### FIREPROOFING AND FIRE EXTINGUISHMENT.

AUTOMATIC APPLIANCE FOR EXTINGUISHING FIRE, H. E. Maxim, Bethel, Maine, March 8	753,897
FIREPROOF BLIND, E. H. McCloud, Columbus, Ohio, March 8	754,002
FIREPROOF COVERING FOR COLUMNS OR THE LIKE, A. A. Hindewinkel, New York, N. Y., March 8	754,064
FIREPROOFING AND INSULATING STRUCTURE, O. F. Zahn, Los Angeles, Cal., March 8	754,109
FIREPROOF WINDOW FRAME AND SASH, H. W. Emerson, Medford, Mass., March 15	754,437
FIREPROOF FLOOR CONSTRUCTION, R. C. Kyle, Columbus, Ohio, March 15	754,574
FIREPROOF CONSTRUCTION, G. Liebau, Maurer, N. J., March 15	754,783
FIRE BARRIER WALL, PARTITION, ETC., H. Root, San Francisco, Cal., March 22	755,171
FIREPROOF BUILDING STRUCTURE, G. B. Waite, New York, N. Y., March 22	755,366

#### HARDWARE.

DEVICE FOR ADJUSTING WINDOWS, A. F. Enquist, San Francisco, Cal., March 1	753,479
LOCK, H. Bryda, Woonsocket, R. I., March 1	753,667
COMBINED LOCK AND LATCH, J. E. Young, Wayland, N. Y., March 1	753,783
SASH BALANCE, G. W. Ogden, Prosperity, W. Va., March 8	753,908
HINGE FOR HATCH OR SHUTTER, J. O. V. Dayton, Ohio, March 8	753,985
LOCK, C. E. Long, Bannockstown, Ireland, March 8	754,226
WINDING SASH ATTACHMENT, L. E. W. Banks, Cambridge, N. J., March 8	754,274
LOCK, Geo. W. Caswell, New Britain, Conn., March 8	754,280
SASH BALANCE, Rathbun and Lounger, Providence, R. I., March 8	754,292
SASH HOLDER AND LOCK, O. E. Howe, Washington, D. C., March 15	754,452
DOOR CHECK AND CLOSER, A. Young, New York, N. Y., March 15	754,620
DOOR CHECK AND CLOSER, W. Pelzer, New York, N. Y., March 15	754,690
LOCK, H. G. Voigt, New Britain, Conn., March 22	755,195
HINGED SUPPORT FOR WINDOW SASH, F. D. Palmer, New York, N. Y., March 22	755,241
SASH HOLDER, D. O. Hlatt, Greenlawn, N. Y., March 22	755,490
LOCK, J. B. Miller, Kent, Ohio, March 29	755,907

#### HEATING AND VENTILATION.

SYSTEM OF HEATING BUILDINGS OR DWELLINGS, L. M. Gates, Muscatine, Iowa, March 1	753,253
STEAM HEATING SYSTEM, J. R. Shanklin, Charleston, W. Va., March 1	753,254
ANTHEAT-RADIATING WINDOW, F. Voigtmann, Chicago, Ill., March 1	753,765
RADIATOR, G. A. Mower, London, England, March 8	754,156
HEATING AND VENTILATING APPLIANCE, W. M. Ferry, Park City, Utah, March 8	754,203

AUTOMATIC ELECTRIC HEAT REGULATOR, D. N. Leib, Elkhart, Ind., March 15	754,465
VENTILATING DEVICE AND APPARATUS, J. H. Powers, Detroit, Mich., March 15	754,695
VENTILATOR, F. J. Truchaska, Park Ridge, N. J., March 15	754,895
VENTILATOR, F. G. Yawman, Rochester, N. Y., March 22	755,095
HEATING SYSTEM, J. M. Seymour, Jr., Newark, N. J., March 22	755,176
VENTILATOR, W. P. Cosper, Chicago, Ill., March 22	755,395
VENTILATOR, R. S. West, Talladega, Ala., March 29	755,973

#### MISCELLANEOUS.

PREPARED ROOFING, S. R. Holland, St. Louis, Mo., March 8	753,982
LADDER AND SCAFFOLD SUPPORT, T. Copeman, Essex, Canada, March 15	754,427
ILLUMINATING STRUCTURE, F. L. O. Wadsworth, Williams Bay, Wis., March 22	755,196
PRESERVED WOOD AND PROCESS OF PREPARING SAME, I. P. Lhime, Cleveland, Ohio, May 29	756,137
ROOFING, J. H. Munro, Newark, N. J., March 29	756,180

#### PLUMBING.

AUTOMATIC STOP AND WASTE COCK, J. T. Hutton, Robinson, Mich., March 1	753,271
WATER CLOSET, H. O. Krakow, Dubuque, Iowa, March 15	754,573
WATER CLOSET, H. A. Allen, Toledo, Ohio, March 15	754,733
WATER CLOSET, W. Kulow, Kokomo, Ind., March 22	755,498
WATER CLOSET, W. H. Osborn, Louisville, Ky., March 29	755,922

#### TOOLS.

PLUMB AND LEVEL, G. C. Brown, Fort Gaines, Ga., March 1	753,354
PLUMB AND LEVEL, C. H. Craven, Newcastle, March 1	753,551

#### ENGLISH PLASTER WORK.

A NOTABLE step in English plaster work leads straight to the classic work of Jones and Wren. French and Italian plaster workers were invited to England in Charles II.'s reign. The chapel of Trinity College, Oxford, may be cited as a good typical specimen of plaster ornamentation. A feature of some of the plaster decoration of the end of the seventeenth century is the elaborate modeling of fruit, flowers, and foliage in full relief, often in parts quite detached from the grounds, and either supported by wires embedded in the plaster or by small sticks of tough wood. This work, full as it is of artistic ingenuity and clever modeling, was by that very ingenuity departing from any true principles of stucco work, and therefore hastening the decay of the art. A notable example is the ceiling of the chapel of the Royal Hospital, Kilmainham. The next modification of style was largely due to Kent. In his designs the plaster ornamentation is mainly used as architectural enrichment, bold in treatment—sometimes too bold for the space, but effective in its way.



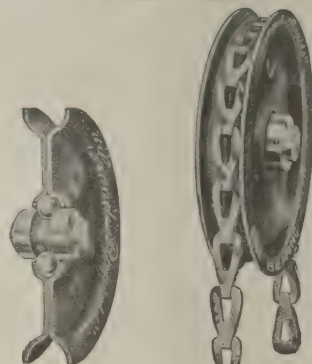
#### ALL-STEEL SASH PULLEYS.

THE good results of a healthy habit of business are shown in the right production of articles that are intended for long service in remote or covered places, and those interested in buildings will welcome improvements in things that are faultless and durable, and hence trustworthy for use in situations where it is costly and inconvenient to gain access in case of trouble. A sash pulley, for instance, is a device that is expected to work smoothly, instantly, and, at the same time, be able to withstand the effects of strain and corrosion in a position out of sight. The Grand Rapids Hardware Company is busy making all-steel sash pulleys, which are rapidly being adopted because they are light and strong, and have a downright sustaining strength in carrying any weight a cord or chain will support. Two-thirds freight charge is saved, and a broken pulley is never known to crop up in a consignment of these all-steel products. And then they fit a simple mortise and fasten with an unsurpassable rapidity. No pulley manufactured by the company requires counterboring to let the face-plate in the wood, and this is a great saving in time, even if one has a pulley mortiser. These pulleys are made with as much care in the direction of material, construction, and finish as any devices of like importance that are very much more liable to receive inspection. Consequently, they are fast growing into favor in spite of the long use of the older fashioned articles. The concise little catalogue of the company will answer any inquiry as to which style or styles of its "All-Steel Sash Pulleys," whether the "Grand Rapids" or the "Fox," will best suit your needs and the requirements of your trade. In the new ball-bearing wheel shown in the accompanying cluster of three engravings, the ball-bearing is the finest running, the strongest, and the most durable ball-bearing sash pulley ever made by this company. Seven solid steel balls, 3-16-inch diameter, run on a turned steel cone axle. None other is made this way. It is furnished in three sizes, 2 inches, 2 1/4 inches and 2 1/2 inches, either for rope or chain, and needs no nails nor

screws, and is noiseless and everlasting. It requires no cutting, no trimming, and is guaranteed to carry any sash made. Engraving No. 1 presents the side view of this anti-friction ball-bearing wheel. No. 2 shows the ball-bearings. No. 3 gives the chain groove. Another roller-bearing wheel is made for the highest grade of buildings where windows are heavy and frequently opened. It is made for that class of trade requiring the very best sash pulley that can be made. Six steel rollers, 1/4-inch diameter, run on a solid steel



BALL-BEARING WHEEL.



BALL-BEARINGS.

CHAIN GROOVE.

axle of the same diameter, making a bearing that no amount of wear yet given has affected in the least. With the fourth engraving illustrating this article we show the No. 12 axle bearing sash pulley, a two-inch wheel. Natural steel pulleys are always shipped, unless otherwise specified. Brass, bronze, or oxidized plated finishes, and brassoline lacquered face are given to the various sash pulleys. In 1902 the Grand Rapids Hardware Company and the Grand Rapids Sash Pulley Company purchased the "Fox" sash pulley business, including patents, machinery, tools, stock, and good will of the business, and continues the well known "Fox" styles. Owning, as the firm



SASH PULLEY.

does, something like twenty of the best sash pulley patents on record, the company is strong in its rights guaranteed by the government, yet advise caution against purchasing imitations. The company also manufactures the "Grand Rapids" triple bit and quadruple bit. These make perfect mortises, and without cutting, trimming, or fitting. Also the "Grand Rapids" post-boring machine. It can be set on a post and used for general work as well as for running quadruple or triple bits. This well made machine will soon pay for itself in any shop. It has tight and loose pulleys, 3 1/4 x 7, which should run about six hundred revolutions per minute. The machine is equipped with a belt shifter on the side, and an adjustable stop for the depth of the hole. It has an adjustable counterbalance on the lever. Any one can arrange a simple foot treadle for bringing down the vertical spindle, if such a device is wanted. The spindle has a half-inch straight hole, where bits are fastened. Send to Grand Rapids, Mich., for a sash pulley catalogue.



## WATER TANKS FOR ROOFS OR TOWERS.

While municipal authorities throughout the country are buzzing with plans for independent water supply, suggested by the Baltimore and Rochester catastrophes, it may be well to suggest that the duty of the individual must not be overlooked. It not infrequently happens that a tank on the roof of a building will extinguish a fire when the ordinary supply has failed or has been interrupted. The cost of a tank, whether connected with a stand pipe or a sprinkler outfit, is very trivial when compared with the whole outlay upon a new building. Yet this simple addition, in case of a fire, will pay for itself a thousandfold.



TANK AND TOWER OUTFIT.

The pioneer in tank building in this country is the W. E. Caldwell Company, of Louisville, Ky., which has been in the business for twenty-eight years. This firm builds tanks of red gulf cypress, the most durable material known for the purpose, and erects them not only upon roofs of buildings of all sorts, but also upon separate towers where there is yard room. Tanks are constructed of all sizes, from a few hundred gallons capacity to others which contain several thousand gallons. All these tanks are built according to the specifications of the Associated Factory Mutual Fire Insurance Companies, and have the endorsement of leading architects and builders throughout the country.

Besides excelling in the quality of material used, these tanks are also adapted by many devices to resist climatic changes, and have patented attachments which insure their being filled easily, kept filled, and emptied as occasion requires.

The matter of hooping is a very important one, and in fact, all the strains which conceivably may come upon a tank, whether from the weight of the water within or from wind resistance or vibration from without, have been calculated to a nicety. There is no rule of thumb work about the Caldwell products, and the company has plans for tanks to be erected under all conceivable conditions.

The illustration herewith shows one of this firm's tank and tower outfits erected for the Ohio Leather Company, at Gerard, Ohio. These outfits are very likely to be found in the vicinity of the reader, and by thorough inspection one may readily discover the various features that make them so acceptable in this country. Send for a catalogue and learn of the prices and plans appropriate to the installation of a suitable water service.

## TAPESTROLIA DECORATIONS.

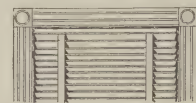
With the view of offering to the intending householder suggestions regarding the use of their burlaps and canvases, the Richter Manufacturing Company, of Tenafly, N. J., has issued an attractive booklet that will also interest architects and builders, who frequently find difficulty in presenting to their clients the effects of interior decoration plans. The booklet is entitled "Tapestrolia," and besides showing its uses in an orderly and ample arrangement of facts, it contains useful hints in half-tone pictures, all to the extent that it is practically a faultless guide for the decorative treatment of every room. The decorative effects produced by the employment of burlap are more artistic and attractive than old wall paper finishes and designs. Burlap tinted in colors and treated with decorative figures can present degrees of shade and luster and range of patterns that are bound to create attention and encourage adoption. One instance of this appreciation is demonstrated by the commissioners in charge of the Art Building at the Louisiana Purchase Exposition in selecting, after careful consideration, tapestrolia burlap as the material most suited for the interior decoration. The competition, we are informed, was exceedingly keen for

this particular contract, as its award carries with it the endorsement that the goods of the Richter Manufacturing Company have the quality and artistic merit suited for the purposes of vast decorative schemes, and at the same time are suitable for covering the walls of the building with a fabric that would enhance instead of detract from the artistic value of the paintings exhibited. It was found that tapestrolia best answered the artistic requirements because of its distinct shades of correct colorings, six of which were chosen to carry out the tone scheme laid down by the artists in authority. The booklet can not be misread or misinterpreted, for the descriptive and illustrated

portions tell the story and show with unusual clearness how each burlaped room of a house looks. It treats of burlap as to its application, its qualities of sanitation, permanency, economy, and cleanliness. How it may be removed and rehung, how painted when applied plain, and how washed down without detriment to the goods. The hall, living-room, the library, the music room, the billiard, and other rooms have each a full page of notice, and the brand of harmony could not be better stamped on walls, ceilings, and floors in relation to furniture, rugs, hangings, bric-a-brac, and woodwork than is there shown in the Richter treatment of household art. An interesting feature of tapestrolia resides in its capacity, when required, of avoiding servile imitations of old styles and of variously introducing a mode of treatment that is absolutely original, and in establishing an original method of dealing with conceptions of new styles, tapestrolia places itself in a solid position in the sphere of decorative art. The dyeing, printing, and finishing works of the Richter Manufacturing Company, manufacturers of tapestrolia treatments of burlap, canvases, etc., are at Tenafly, N. J., and the New York warehouse is at No. 20 East Twenty-first Street. The booklet will be sent free on application.

## SCREENS FOR DOORS AND WINDOWS.

At this season of the year, before the troublesome flies and mosquitoes begin to get too much of a start, is a good time to think of wire screens for windows and doors. It is poor economy to use the usual kind made by hand.



BLIND.

In the first place, the ordinary house carpenter can not give the fine finish necessary, and in the second place, machine-made screens that are produced by a large factory making a specialty of this sort of work, such, for instance, as the Burlington Venetian Blind Company, of Burlington, Vt., are naturally more economical, since they are the product of skilled mechanics specially trained to make screens. Write for this firm's catalogue, and get information on all the details of this method of screening for doors, windows, and the like. The company also manufactures blinds to keep out the sun rays and to control the light. They are constructed so as to permit perfect ventilation, and without any pockets or unsightly projections.

## CLIPS

Every man knows the necessity that constantly arises in business of temporarily fastening together papers, money, samples, or similar objects which it is undesirable to mar by pin holes. For such purposes the "Eureka Clip," made by the Consolidated Safety Pin Company, of Bloomfield, N. J., is particularly well adapted. It will hold anything from a couple of sheets of the thinnest paper to cardboard, or an ordinary booklet. They are extensively used by banks for fastening checks together, or by corporations for attaching checks to vouchers. Business and professional men find them particularly useful, and lawyers employ them to attach memoranda to the pages of their law books, serving at the same time as a book mark and a clip. They are stamped from sheet metal, nickelplated, and are of ornamental appearance, though so inexpensive that they cost little more than the pins they replace.

## A CHEAP BUT ACCURATE AMERICAN WATCH.

That there is a constant and increasing demand for a cheap but accurate watch has been proved by the experience of the firm of Robert H. Ingersoll & Bro., Nos. 51-55 Maiden Lane, New York. In 1892 this com-

pany put on the market a so-called watch, which, although as good as could be produced at that time, was really a small pocket clock. It was also very convenient and readable while hanging on a level with the eye, in desks, and similar pieces of furniture. Since then the size of the Ingersoll watch has been gradually decreasing, as knowledge and new special machinery enabled the firm to perfect its output in this line, and now the works of the watch are enclosed in a standard watch case of the size known as No. 16. This device is no longer a small clock, but a watch in every sense of the word. It has forgotten the days when it was mislabeled, and of all untimely criticism it now goes scot free. The output of these watches in 1892 was one hundred per day; now it is reported by the firm as over six thousand, of which number about two thousand are exported. The principal foreign demand comes from England, and the cheaper Swiss watches have been almost driven from the market by the American timepiece. It finds particular favor among farmers, laborers, sportsmen, and others who are likely to subject a mechanism of this kind to rough usage, and as a watch for boys and for service as an "off watch," when most advisable to leave the one with complicated train and perfect compensation balance at home, it answers admirably. Owing to its non-magnetic quality, it will be found useful for electricians. These practical timekeepers, being machine-made, are all exactly alike, and, under guarantee, they are all exactly right. The inducements are very fair that are offered any one to try this timepiece for one year.

## MANTELS, FIREPLACES, GRILLES, ETC.

The wood engravings inserted in this article represent two mantels and a grille direct from the factory of William F. Ostendorf, of Philadelphia. The larger piece is a golden oak or mahoganyized birch



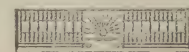
MAHOGANIZED BIRCH MANTEL.

selected lumber, seven feet high, five feet wide, heavy box top and deep shelves, and fitted with a 36 x 18 inch French bevel mirror. Four beautiful columns with capitals add to the structural grace and strength of the mantel. The piece includes enamel tile facings, 60 x 18 inch hearth, and plated frame and club house grate. The smaller mantel is made of solid oak, 78 inches high and 54 or 60 inches wide; has



SOLID OAK MANTEL.

a 24 x 14 inch mirror, and tile and grate. The office and showroom of Mr. Ostendorf are at No. 2417 North Broad Street, Philadelphia, Pa., where he is now offering exceptional chances to procure mantels, fireplaces, grates, tile, slate, grilles, etc. A handsome catalogue has been issued, in which are shown a line of goods of interest to all those who are contemplating building. The illustrations are in half-tones, showing the output as actually appearing on the floor. The process of mounting tiles on slate, employed by this manufacturer, is understood to be so simple that any one with the slightest inclination to try can execute the work without any trouble. It has been employed with entire satisfaction, even in large cities, and no one at a distance need hesitate about ordering mantels for fear of not getting the best effect at the lowest price. The maker reports a large demand for these goods, and claims this in consequence of their suitability to the needs and tastes of people who study the values of color forms and utilities in furnishing homes.



GRILLE.

In addition to manufacturing mantels and fireplaces, the factory is busy furnishing tiles for floors and walls of bathrooms, kitchens, vestibules, etc., as well as slate laundry tubs, grates, fire sets, fenders, and grilles. One, the last mentioned, article, is shown in the engraving herewith. This grille is 48 inches, with pole. Division screens and special grilles are made to order.

AFTER the great fire of Nero every Roman citizen was required to keep in his house a machine for extinguishing fires, and herein lies a suggestion to the present age of what might be accomplished through legislation toward reducing fire waste. Edward Atkinson says: "The only persons who can prevent loss by fire are the owners and occupants of insured premises. Upon them rests the responsibility for heavy loss, if any occurs, in nearly every fire. All the insurance company can do is to pay indemnity for loss, which, if large, in nine cases out of ten is due to lack of apparatus for preventing loss."—Insurance Engineering.





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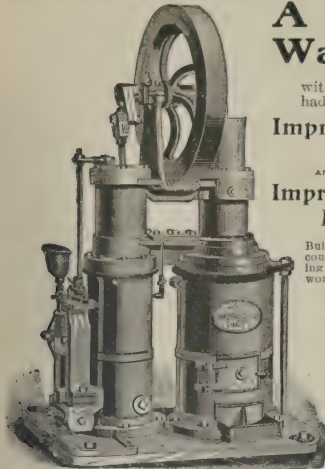
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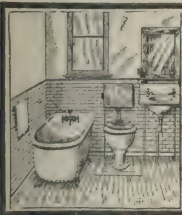
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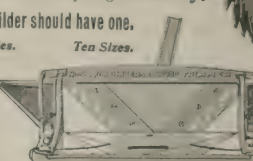
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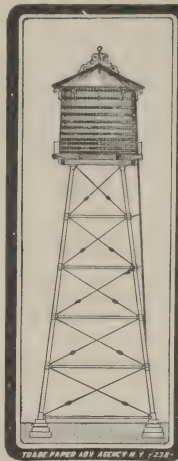
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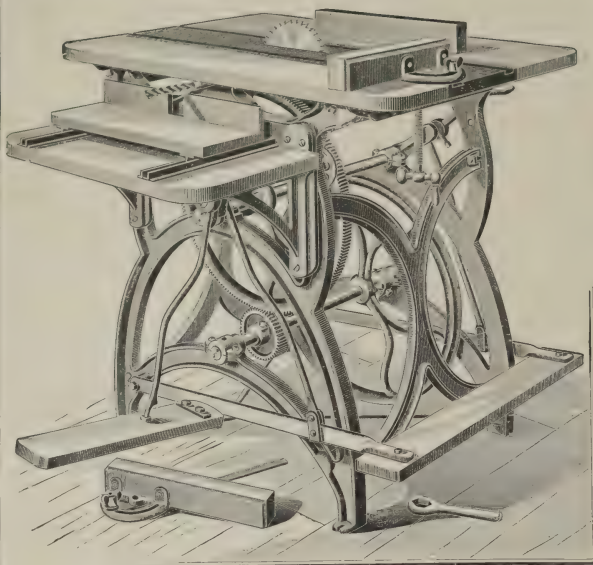


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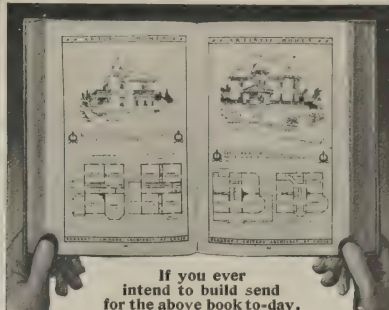
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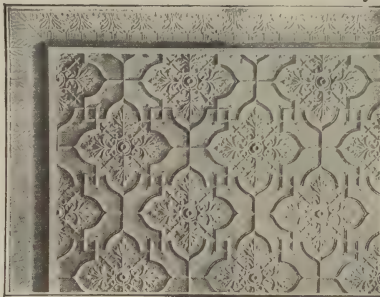
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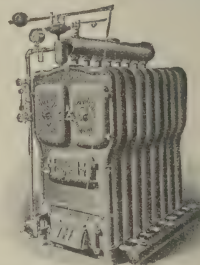
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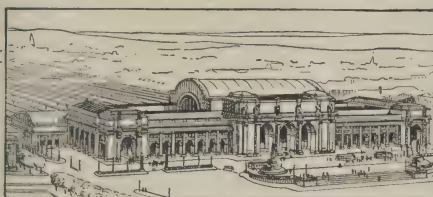
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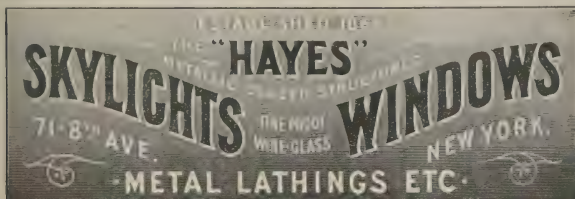
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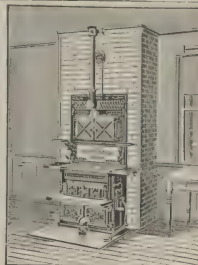
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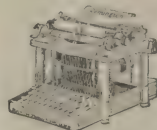
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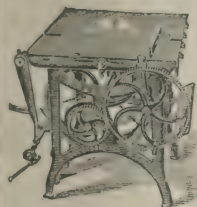


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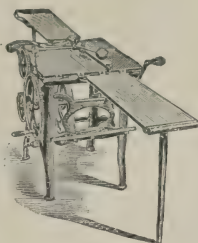
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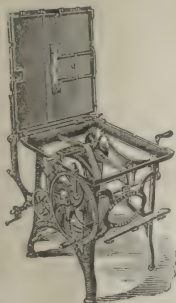
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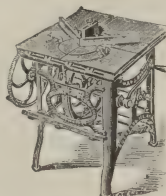
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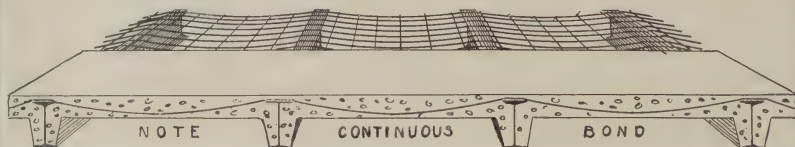
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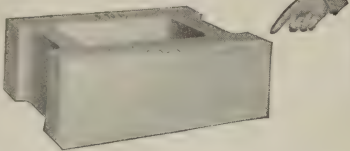
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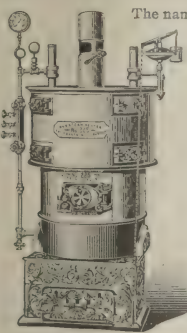
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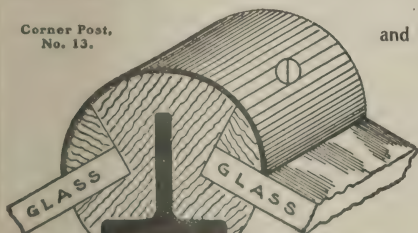
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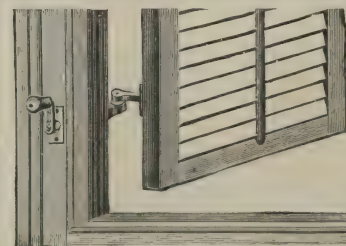
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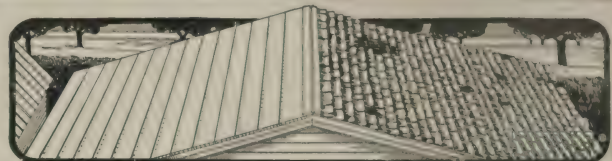
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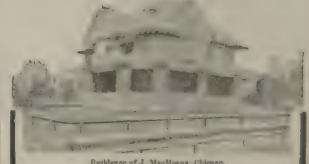
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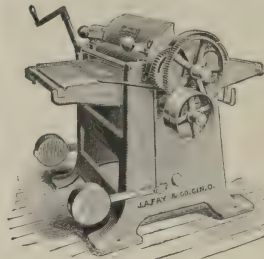
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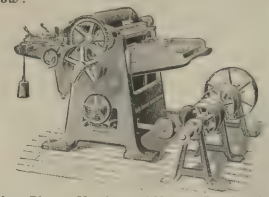
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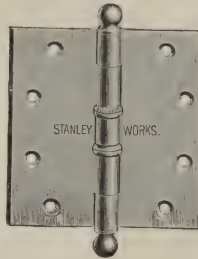
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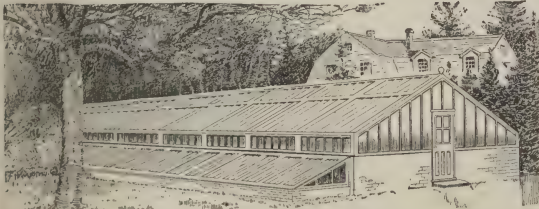
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ENTRANCE TO "BLAIRSDEN," THE ESTATE OF C. LEDYARD BLAIR, ESQ., BERNARDSVILLE, N. J.—See page 113.  
MR. THOMAS HASTINGS, ARCHITECT. MR. JAMES S. GREENLEAF, LANDSCAPE ARCHITECT.



# SCIENTIFIC AMERICAN BUILDING MONTHLY

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NEW YORK, JUNE, 1904.

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## MONTHLY COMMENT.

A good many years ago, when Mr. James Fergusson wrote his *History of Architecture*—a book which long maintained a special value as the most exhaustive treatise in English, a rank that, in some respects, it still holds—he calmly stated that the opera house was the only new type of building that modern conditions had contributed to the art of architecture. This statement has long since passed into the category to which unfilled prophecies and improperly buttressed statements belong, and if it were not for the fact that his book is still in general circulation the remark would doubtless long since have been forgotten. The truth is, new buildings and new types of buildings are being brought forth almost daily by the changing conditions of modern life. Many of these are complex structures, and some, as stations for the generation of electric power, are mammoth edifices, covering much ground and involving many complicated structural and engineering problems in their making. It is significant of the times, perhaps, that a number of such buildings have been erected by engineers before architects awoke to the fact that extensive building operations are being carried out without their supervision. The relations between architects and engineers in such matters have never yet been determined to the satisfaction of either party. The point of view of the engineer is, in a tolerably strict sense, utility; the point of view of the architect is artistic treatment of exposed surfaces. The engineer will probably claim that the architect is an unnecessary expense, since much of his ornament means increased cost, which has no structural advantage. The architect, on the other hand, will point to structures erected by engineers as miracles of ugliness. And in this, most unfortunately, the architect is generally right.

The relations between architect and engineer are becoming so closely related that the time must arrive when the relations of each profession to great building enterprises must be definitely determined and fixed. When this period does come it will be to the great advantage of the helpless public, which is compelled to view the structures erected in public places.

It is an indisputable fact that buildings can not be hid. The bigger they are, the more they are seen. Engineering structures are often of the largest size, and therefore have a very pronounced quality of visibility. But their utility is no excuse for their ugliness or their offensiveness. If architecture as an art were generally appreciated and valued by the public at large, there would be such an outcry against vast, ugly structures that a standard of beauty would be rigidly insisted upon. And this does not mean the stringing of ornament on the outside of a building; it means giving to structures the grace of form and plan that utility requires, and the treatment of exterior surfaces in a way that would give them distinction and interest.

Interest in building is not obtained by adding on extraneous ornament, but by putting good solid thought into the work and treating the utilitarian questions of design in an intelligible and artistic manner. This means a good deal of work for the architect and perhaps fewer jobs during the year. But most people have to work hard for their living. Why should the architect be the exception to the rule?

A gentleman who is well known as the owner and proprietor of a series of newspapers published in the leading cities of the country, and who has been making an active canvass for the exalted office of President of the United States, prints in one of his daily sheets the agreeable suggestion that small houses should be exempt from taxation. The house owner in general will doubtless naturally exclaim, Why not exempt all houses? This is one of those specious ideas which have only to be stated to make clear their own inherent defects. It is, of course, a delightful suggestion, since the payment of taxes of any sort is one of those burdens that many people spend much time in avoiding. But it borders so close on class legislation that there is no likelihood of such a proposal, if put into form of law, meeting constitutional requirements. House owning, in a legitimate way, should be encouraged, but exemption from taxation is not the way in which to do it. For if small houses, why not small pieces of land? And, in fact, the very paper that is arguing for tax-free houses calmly asks for a similar exemption for small farmers. It would, perhaps, be as reasonable to ask for the remission of all taxes.

## THE ASSOCIATIONS OF HOUSES.

THE Americans dearly love a house or a place with a deep historical or personal association. We do not always honor our great men in their lifetime, nor are we always aware of the significance of the events we are directly concerned with; but once let fame settle on a person or place, and the Americans, as a people, will flock to it in boundless admiration. Witness, for example, the thousands of Americans who have worshipped at the shrine in Stratford-upon-Avon. Witness, if you please, the multitudes who stand agape at the monuments in Westminster Abbey. Witness again, if you will, the crowds who stand bareheaded in Independence Hall and in Faneuil Hall.

The interest that clusters around buildings and places because of personal and historic interest is by no means limited to the people of our own land and nation. The French, the Germans, the Italians, and other peoples of continental Europe, to say nothing of the English themselves, are worshippers at the same shrine of history and of memory. In some respects the continentals exceed us, for we have not yet got to the point at which we placard the exterior of buildings because certain foreigners have abided within. No less than two dwelling places of Benjamin Franklin are so marked in Paris, and examples of similar compliments to great men abound in many places of Europe. The French are very genuine in their regard for historical associations, yet the marking of temporary residences of foreigners may be but a compliment to their present-day fellow countrymen. Certainly the American who may never have taken the trouble to visit the burial place of Franklin in the quiet old Quaker graveyard in Philadelphia will feel a thrill when he discovers the Franklin inscriptions in Paris.

Our own national life has been so brief, as nations go—and as we may trust to go ourselves—that our historic buildings are of the scantiest number. The birthplace of any great or distinguished man, the house in which he has lived, the room in which he has thought out his work and labored into immortality, the place in which he has died—all these are spots of interest, of varying interest, it is true, dependent upon the man and his work, but still of interest to those to whom he and his labor have counted. But so rapid are the changes in our American towns and cities that the buildings with interesting personal associations are very apt to be swept away in the inexorable march of progress and before we have become entirely aware of the greatness that has been born and lived beside us.

It is disheartening to the patriotic and historically minded citizen to visit a progressive small American city of any considerable age. One looks for old buildings in old places, and as the old buildings in America have many distinctive charms, one looks not only for structures of historic interest, but for those of genuine architectural merit. It is not until one has found one's search fruitless that the stubborn fact dawns upon one that as the town has centered around its beginning spot, that is the place of places that would first be touched by modern improvements. In very many cases the old buildings have disappeared before the present generation, with all its lively interest in the past and its work, has awakened to the fact that of outward, visible signs we have too few.

But if our national memorials are scant, of places of personal interest we have an abundance. The home of every man should be to him the spot around which the finest memories cluster. Home is a sacred place. In the harsh, cruel wording of the law it may be one's castle; but in the true concept of the family life it is the shrine around which all that is best worth having in this world centers and develops.

The sentimental side of the house is, in truth, a most important one. Houses are viewed as creations of architecture, as real estate investments, as places to pass away time in that can not well be spent elsewhere; and, doubtless, many persons imagine that in one or another of these view points the utmost satisfaction is derived. Very likely it is; but the utmost of house satisfaction can not be obtained within such narrow limits. Houses are unquestionably subject to review from the architectural point of view. They are naturally matters of investment interest; and it appears to be an unquestioned fact that, to many, they are unavoidable resting places, without the delights and joys of the great world without. But the persons who look at houses from these and similar points of view quite fail to realize their utmost value or to appreciate what the house may be and is to those who have built up a true home within it.

And the home life can not properly be divorced from the building itself. The plan, the shape and size of the rooms, the conjunction of the various apartments, the placing of a favorite window, the aspect one views from a favorite spot, the color of the walls, the hangings, the furniture, the pictures, the bric-a-brac—all count and help in making up the home and in influencing the inmates. That some persons are more sensitive to such influences than others is but human; but because all can not rise to such sentimental appreciations is no reason at all for suppressing such interest. On the contrary, it is the best of reasons for developing and furthering the sentimental aspect of the house.

The sentimental side of the house is its purely human interest; or, to put the statement in other words, it is the interest given to the house by the human beings who live in it. And the longer one lives in a house the more pronounced this feeling will become. One does not need to perform great deeds within a dwelling to give it interest. One does not need to be a distinguished writer, or an accomplished artist, or a notable statesman, or a profound student, or to be a marked man in any sense, to give interest to a house. For the sentimental aspect of the house is a purely personal affair. It is concerned with the living inhabitants, not with the outsider or the traveler who passes by in the night. It is a feeling that is developed by what is, not by what is done. It is a personal, introspective, undefinable quality that is felt, and not seen, albeit mortar and brick, plaster and stone, paper and carpets, furniture and decorations influence and develop it.

The associations that cluster, and cluster naturally, around a house, may be the happy possession of every householder. Not all to the same extent, because some of us are more sensitive to certain influences than others; not all in the same way, for some will feel things that others do not; but the more one tries to get out of a building as a building, the more pleasure one will find in life, and the more one will realize of his opportunities.

Distinction may be given to certain houses because of certain distinguished occupants or of certain distinguished deeds that may have been wrought within them. This is something quite different from the associations that one should feel in one's own home. We can not all make our homes distinguished in the true sense of the word, in the larger sense, in relation to the outer world; but there is not one of us but can absorb some inspiring suggestions from the associations of one's surroundings, and especially of the surroundings of one's own creation which we call the home. If that be impossible, then clearly there is something the matter with just these things and with ourselves. The personal element may be difficult to change and better; the home surroundings may, at times, seem equally difficult to improve, but the effort can be made. Try to view the house itself as a help in the humanizing of life.



## TALKS WITH ARCHITECTS

By BARR FERREE.

## MR. THOMAS HASTINGS AND "BLAIRSDEN," THE ESTATE OF C. LEDYARD BLAIR, ESQ., BERNARDSVILLE, N. J.

ANY one that cares to know it is quite welcome to the intelligence that I have a very special and partial regard for Mr. Thomas Hastings, of the most eminent architectural firm of Carrère & Hastings. I use the words "most eminent" advisedly, for truly, of no other group of architects, actively engaged in the practise of their noble profession, is the phrase so applicable. Professional triumph after professional triumph have come to these able and accomplished gentlemen, until, only yesterday—so rapidly does time move—were they appointed architects to complete the Capitol of the United States at Washington; or, to speak more exactly, they were awarded an opportunity which seems definitely certain to give them this splendid reward for professional ability.

That they are no ordinary men—John M. Carrère

Mr. Carrère should happen to see this article and wonder why I left him out. One is apt to think of Mr. Hastings as the designing member of the firm, and to a very large extent this is true; but no one familiar with the conduct of architectural partnerships can ignore the fact that the work produced by several men in partnership is rightly and literally a joint product, for which all concerned in the production are responsible.

I had not had the pleasure of seeing Mr. Hastings since the agreeable time when he had acted as my cicerone to the house of Mr. Flagler at Palm Beach, which I had the pleasure of describing in the columns of the BUILDING MONTHLY some months ago. That he had left a client in his bureau—or should I say atelier?—it is sometimes difficult to know just what word to use in referring to Beaux Arts architects—did not surprise me, although it was some personal gratification; for the practise of Carrère & Hastings is so large that I should imagine that the times when either one or the other of the firm was not closeted with a client

of approaches in such a way as to permit easy access and artistic planning of roads, walks, and terraces. This, of course, involves no difficulties if ample funds and time are allowed, and that Mr. Hastings accomplished this task in an exceedingly beautiful manner by the use of diagonal roadways is exactly what might have been expected.

A little lake in the foreground is entirely surrounded by Mr. Blair's property. The roadway to the house approaches a pergola built above it; then turns at a sharp angle, zigzag fashion, and passes in a straight line before the house and terraced garden, to a point considerably beyond the former, where it makes another turn at a sharp right angle, and the visitor is immediately before an entrance way, lined with four rows of superb trees, through the central path of which is a stream of water. This forms the formal approach to the house; on the upper side the area is enclosed within a wall; on the lower side, which overlooks the view below, is a balustrade. The trees are immense, and have all been brought here for the adornment of



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OUTDOOR LOUNGING-ROOM—"BLAIRSDEN," THE ESTATE OF C. LEDYARD BLAIR, ESQ., BERNARDSVILLE, N. J.

and Thomas Hastings—must be thoroughly apparent to every one who has watched their rise to fame, now about to be assured in one of the greatest opportunities open to living architects. So recently as twelve or fifteen years ago they were well nigh disheartened by many successive failures in competitions, which seemed inexplicable after their first great success as young architects in the magnificent hotels at St. Augustine. And then the tide turned, as it must always turn toward merit which has opportunity, and one success followed another, until to-day their name is known throughout the breadth of the land as the creators of some of the most important buildings in America, as designers of fine originality, as creators of sturdy workmanship, of sound construction, of refined art. Both these men would doubtless tell you that whatever success they have had has been due to their training in the famous Ecole des Beaux Arts in Paris; but, as a matter of fact, it lies much closer home than this, and is distinctly due, and most unmistakably, to their own personalities and their really artistic sensibilities.

I began by frankly stating my personal admiration for Mr. Hastings, and I must hasten to add that I have a similar regard for Mr. Carrère. I mention this lest

would be very few and far apart. Happy, happy men, and thrice fortunate architects to be so situated!

Photographs and drawings were quickly produced, and in a short time Mr. Hastings had made clear to me his own conception of this beautiful place. Blairsdene is a considerable property, of about three hundred acres, between Far Hills and Bernardsville, N. J. It is in the midst of the mountains of Somerset County, a locality that has rapidly grown into favor among wealthy New Yorkers as a place for country residences, and which is already distinguished by several notable dwellings, of which Mr. Blair's house is one of the most recent.

The building of a large house in a mountain region is a task that involves many difficulties. I may immediately disregard questions of transportation and material: these are mechanical matters which are readily solved by that most useful of modern commodities—money, and of that, in this case, there was no stint. But the architectural and artistic problems are not slight, and these were the first questions which the architect had to consider. Briefly stated, the fundamental proposition in this case was the building of a large house on an elevated site, and the arrangement

this spot. They are nearly a hundred in number, and constitute one of the most striking features of this great estate.

The house is built of red brick and Indiana limestone, and is designed in the style of Louis XIII. It is two stories in height, with a third story in the high, pyramidal roof. As a whole it is simple and stately, the main doorway being contained within an ornamental stone framework, supporting a low pediment, carried by double pilasters. The general plan is rectangular, with projecting wings at each end, the shorter side facing the entrance roadway, and the longer overlooking the valley immediately below and the hills beyond.

The spacious interior is extremely elegant, with reception-room, library, drawing-room, breakfast-room, dining-room, and music-room opening out of the great central hall. The hall, with its ornamental staircase, is entirely of Caen stone. The dining-room, at the end of the hall, is paneled throughout with oak and has a coffered ceiling. The hangings are green and gold, and the carving on the oak is also gilded, with a very successful introduction of color. The library is in Italian walnut, and, like the dining-room, is wholly

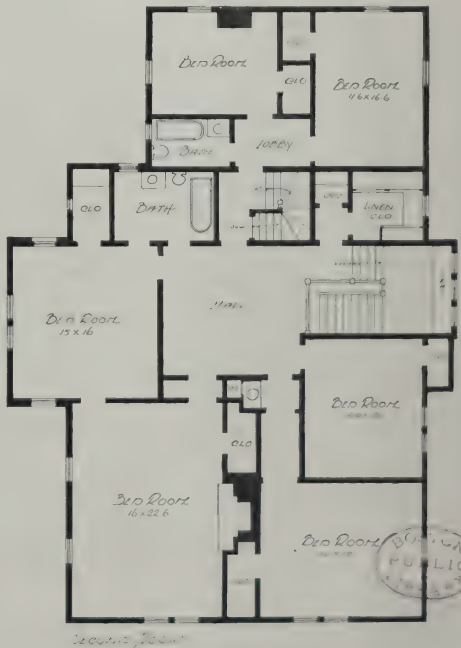
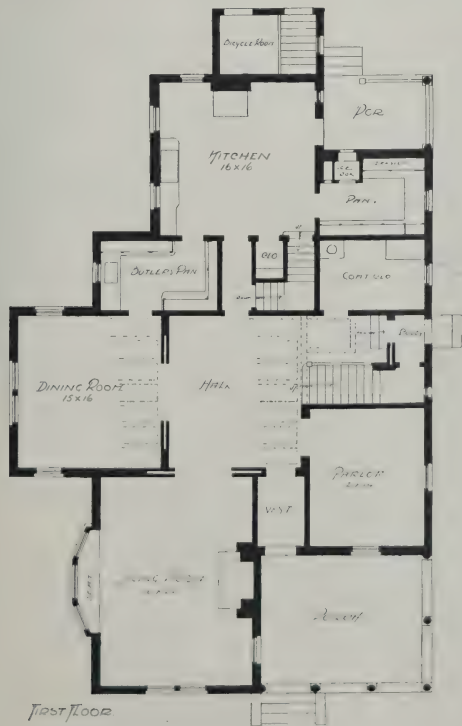
(Continued on page 128.)





RESIDENCE OF THE REV. CHARLES H. BUCK, YONKERS, N. Y.—See page 127.  
MR. G. HOWARD CHAMBERLAIN, ARCHITECT.





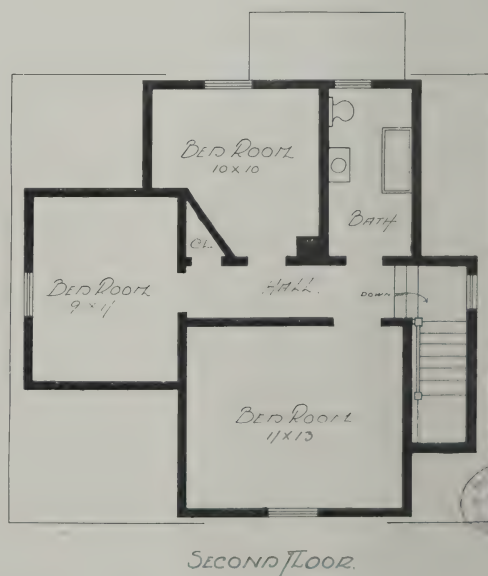
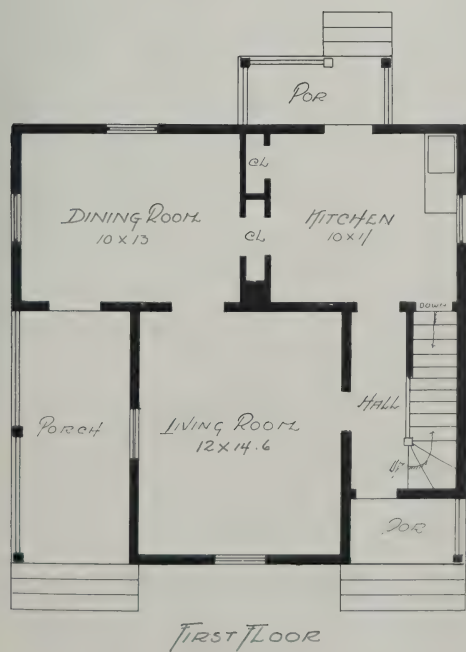
RESIDENCE OF E. M. COATS, ESQ., SPRINGFIELD, MASS.—See page 128.  
MR. G. WOOD TAYLOR, ARCHITECT.





A HOUSE AT ESSEX FELS, N. J.—See page 126.  
MR. LAURENCE VISSCHER BOYD, ARCHITECT.





A COTTAGE AT WOODMERE, L. I.—See page 127.

MR. FRANK COTTOR, ARCHITECT.





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THE HOUSE SEEN FROM THE LOWER GROUNDS.



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THE ENCLOSED GARDEN AND PERGOLA.

"BLAIRSDEN," THE ESTATE OF C. LEDYARD BLAIR, ESQ., BERNARDSVILLE, N. J.—See page 113.

MR. THOMAS HASTINGS, ARCHITECT. MR. JAMES S. GREENLEAF, LANDSCAPE ARCHITECT.





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DINING-ROOM.



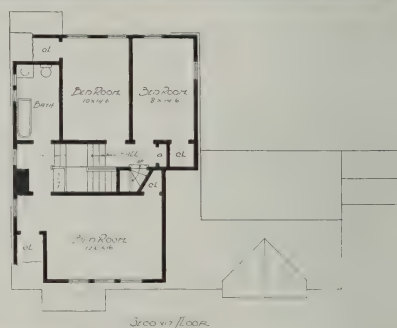
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LIVING-ROOM.

"BLAIRSDEN," THE ESTATE OF C. LEDYARD BLAIR, ESQ., BERNARDSVILLE, N. J.—See page 113.

MR. THOMAS HASTINGS, ARCHITECT.

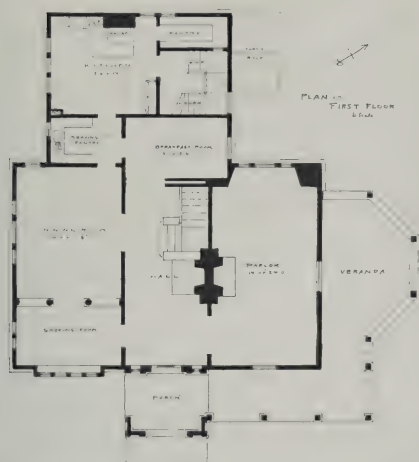




THE STUDIO.

AN ARTIST'S STUDIO AT LEONIA, N. J.—See page 126.  
MR. EATON, ARCHITECT.





RESIDENCE OF SAMUEL A. MEEKS, ESQ., AT PROSPECT AVENUE, HACKENSACK, N. J.—See page 127.

MR. HENRY S. IHNNEN, ARCHITECT.





RESIDENCE OF FRANKLIN C. PAYSON, ESQ., AT PORTLAND, ME.—See page 127.  
MR. JOHN CALVIN STEVENS, ARCHITECT.





LIVING-ROOM.



DINING-ROOM.

RESIDENCE OF FRANKLIN C. PAYSON, ESQ., AT PORTLAND, ME.—See page 127.

MR. JOHN CALVIN STEVENS, ARCHITECT.





A SUMMER COTTAGE AT DELANO PARK, CAPE ELIZABETH, ME.—See page 128.  
MR. JOHN CALVIN STEVENS, ARCHITECT.





A CITY GARDEN, NEW HAVEN, CONN.—See page 128.  
MR. CHARLES W. LEAVITT, JR., LANDSCAPE ARCHITECT.



**MR. THOMAS HASTINGS AND "BLAIRSDEN," THE ESTATE  
OF C. LEDYARD BLAIR, ESQ., BERNARDSVILLE, N. J.**

(Continued from page 113.)

paneled. The ceiling is plaster, and the mantel of marble. The tone of the living-room is gray. This is a charming room, delightfully finished with the decorative materials taken from an old drawing-room in Second Avenue, New York, the fine decorative features of a fine old New York room being thus utilized in this modern New Jersey home. The billiard-room is treated in the Renaissance style with good detail.

The upper floors of the house are given over to bedrooms, arranged singly and en suite, and with many bathrooms. Bright, cheerful colors are used in the bedrooms, and a tour through the upper parts of the house presents a succession of pleasant pictures admirably arranged for the comfort and convenience of the many guests who frequently throng this delightful home.

The elevation of the house on a hill side, and the necessary building of terraces, on which to support it,

house is the center of a great estate, with stables, carriage houses, farm house, dairy, and other essentials of a like nature. Mr. Blair is particularly addicted to horses, and the finest possible accommodations have been provided for his blooded stock. A record of this fine house and its grounds would be incomplete that failed to mention Mr. James S. Greenleaf as the landscape architect of the estate.

**AN ARTIST'S STUDIO.**

THE artist's studio illustrated on pages 120 and 127 has been erected for F. W. Peters, Esq., at Leonia, N. J. The illustrations presented show what can be done in a combination of an artist's studio with family quarters, and thereby forming a unique idea for suburban uses, and making a most complete and harmonious whole. Mr. Peters, in creating this design, has demonstrated what a little thought can do in producing a simple and yet an attractive building, such as is now presented for consideration for those of artistic and literary pursuits who desire a building of this char-

small porch, which is enclosed with glass in winter. The dining-room is also trimmed with yellow pine, and is painted a mustard yellow, while the walls are treated in harmony. There is a china closet, with leaded glass doors, built in, and also a beamed ceiling. The kitchen is wainscoted, and is furnished with all the best conveniences.

The second story contains three bedrooms, closets, and a bathroom; the latter wainscoted to the height of five feet and painted ivory white, and contains porcelain fixtures and nickelplated plumbing. The bedrooms are treated also with ivory white paint, while the walls of each are treated artistically in colors. The cellar contains the servants' quarters, with bath and servants' hall, also furnace room, fuel rooms, etc. The late Mr. Eaton, of Leonia, N. J., was the architect.

**A HOUSE AT ESSEX FELS, N. J.**

The illustrations on page 116 present a house built for Messrs. Wendel and Treat, at Essex Fells, N. J. The underpinning and the first story, up to the first



THE HALL AND STAIRCASE—RESIDENCE OF F. C. PAYSON, ESQ., AT PORTLAND, ME.—See page 127.

provide some additional space below the main floor, which has been put to good use. Here is a squash court, a plunge, and Turkish bath, and Mr. Blair's lounging-room.

Like all great country houses, Blairsdén is amply provided with sumptuous gardens and grounds. Viewed from below, the house is supported by a great stone terrace, with double flights of steps. The space thus created forms a species of open court before the house, and is treated with lawns and paths and decorated with many bay trees. From the stone terrace descend the great terraced gardens of the estate, closely lined with trees, and treated in a formal way, a superb approach, by which the traveler on foot may approach the house.

At the further end of the house, from the entrance doorway, is a pergola leading to an outdoor lounging-room, a unique apartment, with brick walls, open arches, high wooden roof, and a fireplace, a spot not only agreeable with all the agreeableness of good taste, but from which truly sumptuous views can be had of the surrounding country. Within, and behind the connecting pergola, is a small enclosed flower garden court.

One need hardly be told, I should imagine, that the

acter in one of the many suburbs of the metropolis. The underpinning and the terrace at the front are built of field stone laid up at random. The superstructure, of wood, is covered with matched sheathing, good building paper, and then cedar shingles, which are stained a soft brown color. The trimmings are painted a bottle green. The gables, dormer windows, and studio window are covered with stucco, which is pebble dashed. The roof is covered with shingles and is stained a dull green.

The entrance is into a large living-hall, which is trimmed with yellow pine and finished with forest green treatment. The floor beams are exposed to view and the walls have a battened wainscoting. The staircase is of simple, but attractive, character, and the fireplace in the ingle nook is faced with red brick laid in white mortar, and provided with a wooden shelf. The floor of the ingle nook is paved with 8 x 12 inch brick of special make.

The studio is trimmed with yellow pine and is finished in forest green. It has an attractive paneled seat in the studio window, and an open fireplace built of cobble stone, with a brick arch and a hearth of the same. A door at the left of the fireplace opens onto a

story windows, and also the balustrade to the piazza, are built of field stone laid up at random with wide mortar joints. The columns of the piazza are also built of similar stone. The remainder of the first story is covered with stucco, which is pebble-dashed and tinted a deep yellow. The second and third stories are of wood, and the exterior is covered with shingles, which are stained a deep brown color. The roof is covered with shingles and is stained green. The trimmings are painted bottle green. Dimensions: Front, 56 ft.; side, 52 ft., exclusive of piazza. Height of ceilings: Cellar, 7 ft.; first story, 10 ft.; second, 9 ft.; third, 8 ft.

The living-hall is entered through a vestibule, with a broad doorway, with windows on either side. This vestibule and hall are trimmed with antique oak, and the latter contains an alcove at the side of vestibule which is furnished with a seat, and it has also an ornamental staircase turned out of oak.

The drawing-room is trimmed with white pine and is treated with white enamel. It has an open fireplace, furnished with white enamel tile facings and hearth and a mantel of Colonial style.

The library is trimmed with antique oak, and it has



a fireplace built of brick, with the facings and a hearth of the same, and a mantel. An attractive feature of this room is the circular form at one end and two window bays with seats which are placed opposite each other. The dining-room is trimmed with oak, and it has a plate rack at the height of seven feet. The butler's pantry, kitchen, and laundry are fitted up with all the best modern conveniences.

The second floor is trimmed with white pine and is treated with china white. It contains a large open hall, five bedrooms, and a bathroom, furnished with porcelain fixtures and exposed nickelplated plumbing. The third floor contains the servant rooms and bath, two bedrooms, and a trunk room. A cellar, cemented, contains the heating apparatus, fuel rooms, etc. Mr. Laurence Visscher Boyd, architect, Harrison Building, Philadelphia, Pa.

#### RESIDENCE OF FRANKLIN C. PAYSON, ESQ., AT PORTLAND, MAINE.

On pages 122, 123, and 126 will be found illustrations of the residence of Franklin C. Payson, Esq., at Portland, Maine. The building is constructed from grade with red brick laid in white mortar and with Flemish bond. The chimneys are treated likewise. The gables are covered with slate, and the roof is also covered with slate. All the detail throughout is Colonial, and the porches, cornice, and all exposed woodwork are treated with white paint. The blinds are painted bottle green.

Dimensions: Front, 78 ft. 8 in.; side 46 ft., exclusive of porch and sun-parlor.

The vestibule has a tiled floor and a paneled wall. The hall is trimmed with pine and treated with white enamel. It has a paneled wainscoting, which extends around the hall, up the staircase, and around the second story hall. The staircase hall is separated from the entrance hall by an archway, supported on fluted pilasters and columns with Ionic capitals placed on paneled bases. The staircase is of an ornamental character, with white enameled balusters, posts, and risers, and mahogany rail and treads. At the side of the staircase there is an ornamental seat of white enamel treatment with mahogany arms. The drawing-room is treated with white enamel, and has an open fireplace furnished with white enameled tiling and a mantel of Colonial style. The den is treated with Flemish brown, and has a book case built in on one side of the fireplace. This open fireplace is built of brick, and has a quaint little mantel with cabinets, etc.

The living-room is trimmed with oak, and is finished in Flemish brown. The ceiling is heavily beamed, and the walls have a paneled wainscoting, except where the book cases are built in, and which occupy mostly the entire wall space. These book cases have leaded glass windows. The recessed window at the side of fireplace, with its paneled seat, book cases over same, and window glazed with leaded glass, forms an attractive feature. The broad open fireplace has a tiled facing and hearth, and a mantel shelf supported on corbel brackets over which there is a painted panel; on either side of the fireplace there are fluted pilasters, which rise and form the framework of the picture.

The dining-room is trimmed with white pine treated with white enamel, and the whole treatment is old Colonial. It has a paneled wainscoting to the height of four feet, and a wooden cornice. The broad, open fireplace has a tiled facing and hearth and a massive, broad mantel with columns, etc. The dining-room, and also the living-room, open onto the sun parlor, which is enclosed with glass and is furnished with a tiled floor. The butler's pantry is fitted up with sink, drawers, cupboards, etc. The kitchen and its dependencies, the immense pantry, rear hall, and stairway are furnished with all the best modern conveniences. The lavatory is conveniently placed.

The second story is trimmed with white pine and is treated with white enamel. This floor contains a large open hall, four bedrooms, and two bathrooms, and also

two servant bedrooms and bath. Each bedroom is provided with ample closets, well fitted up, and there are also two linen closets. The bathrooms are paved and wainscoted with white enamel tile, and are fitted with porcelain fixtures and exposed nickelplated plumbing. A novel feature of this floor is the clothes closet with the outer and inner compartments.

The third floor contains a billiard room, three bedrooms, and bath, and a trunk room. The cemented cellar contains a laundry, heating apparatus, fuel room, cold storage, etc. Mr. John Calvin Stevens, architect, Oxford Building, Portland, Maine.

#### RESIDENCE OF THE REV. CHARLES H. BUCK, YONKERS, N. Y.

The illustrations on page 114 present the residence of the Rev. Charles H. Buck, at Yonkers, N. Y. The design is in the style of the Georgian period. The house has a portico at the front, supported on fluted Corinthian columns. The underpinning is built of rock-faced blue stone laid up ashlar, and the superstructure is of wood. The first story up to the window sills is paneled and painted white; the remainder of the building is covered with an eight-inch clapboard, painted a deep Colonial yellow, and the quoins at the corners and the columns, cornice, and all trimmings are painted white. The roof is covered with cypress shingles and left to finish natural. The portico at the front is sup-



HALL AND INGLE-NOOK IN THE STUDIO OF F. W. PETERS, ESQ., LEONIA, N. J.—See page 126.

ported on columns made by the Hartmann Bros. Mfg. Co. Dimensions: Front, 63 ft.; side, 51 ft., exclusive of piazza and porte-cochère. Height of ceilings: Cellar, 8 ft.; first story, 10 ft.; second, 9 ft.; third, 8 ft. 6 in.

The hall is a central one, extending the entire depth of house, and is trimmed with quartered oak. It has a paneled wainscoting and a beamed ceiling. The fireplace has tiled facings and a hearth and a mantel of oak with column. The staircase starts with a central run to a broad landing, from which the stairs divide and rise in either direction. The parlor is trimmed with cherry, and also the library; the latter has book cases built in, and an open fireplace with mantel facings and hearth, and a mantel of cherry with overmantel. The dining-room is trimmed with quartered oak, and it has a paneled wainscoting and an open fireplace with tile trimmings and mantel. The butler's pantry is trimmed with yellow pine, and is furnished with sink, drawers, dresser, etc. The kitchen is also trimmed with yellow pine, and it has a sink, dresser, pot closet, store pantry, ice box, and range.

The second floor is trimmed with cypress and is finished natural. This floor contains five bedrooms, den, linen closet, and two bathrooms. The den is provided with an open fireplace. The bathrooms are treated with china white enamel, and are furnished with porcelain fixtures and exposed nickelplated plumbing. There are two guest rooms, two servant bedrooms, and servants' bath, and also two trunk rooms on the third floor. The cellar contains a large laundry, toilet room, cold storage, furnace room, fuel room, and an open cellar. Mr. G. Howard Chamberlain, architect, 1181 Broadway, New York.

#### A COTTAGE AT WOODMERE, L. I.

The illustration shown on page 117 presents a cottage built by the Woodmere Land Association for the station agent at Woodmere, Long Island. The cottage presents an attractive appearance, and is constructed with a stone foundation, while the building above, of wood, is covered with stucco from grade to peak, and which is of a soft gray color. The sash and trimmings are painted a soft brown color. The roof is covered with shingles and left to weather finish naturally. Dimensions: Front, 27 ft.; side, 27 ft., exclusive of porch. Height of ceilings: Cellar, 7 ft.; first story, 8 ft. 6 in.; second, 8 ft.

The interior arrangement is most excellent, and is trimmed throughout with white pine treated with white paint. The first floor contains a hall with an ornamental staircase, a living-room, dining-room, and kitchen, with well fitted closets, sink, range, etc.

The second floor contains three bedrooms and a bathroom, the latter furnished with porcelain fixtures and exposed plumbing. The cellar is cemented, and it contains fuel rooms, cold storage room, etc. Mr. Frank Cottor, architect, Woodmere, Long Island.

#### RESIDENCE OF SAMUEL A. MEEKS, ESQ., AT PROSPECT AVENUE, HACKENSACK, N. J.

On page 121 will be found illustrations of a residence of Samuel A. Meeks, Esq., at Prospect Avenue, Hackensack, N. J. The foundation is built of stone, and the

underpinning is constructed of terra cotta brick. The superstructure, of wood, is covered on the exterior framework with matched sheathing, good building paper, and cypress shingles, which are left to weather finish naturally, while the trimmings are painted a dull gray green color. The roof is covered with shingles. Dimensions: Front, 41 ft.; side, 48 ft., exclusive of piazza. Height of ceilings: Cellar, 7 ft.; first story, 9 ft. 6 in.; second, 8 ft. 6 in.; third, 8 ft.

The interior throughout is trimmed with white pine. There is a central hall, which is treated in a grayish green color, and contains an open fireplace furnished with tiled facings and hearth and a mantel, and also an ornamental staircase with broad platforms and treads.

The parlor is treated in old ivory white and gold, and it has an open fireplace with tiled facings and hearth and mantel in harmony. The dining and smoking-rooms occupy the opposite side of the house, and each is separated one from the other by columns supported on paneled bases. Both rooms are treated with a gray blue color. A butler's pantry is complete in itself, and connecting with the butler's pantry, and at the rear of the hall, there is a breakfast room. The kitchen and its dependencies are fitted up complete with all the modern improvements. These apartments and butler's pantry are trimmed with North Carolina pine.

The second floor is treated with colors with harmonious effects, and contains a large open hall with fireplace and an alcove with seats, four bedrooms, bathroom, linen closets, and two servant bedrooms, with private stairway. The third floor is one open attic, providing ample storage space. Rooms could be provided on this floor if desired. The bathrooms are wainscoted and treated with white enamel paint, and are furnished with porcelain fixtures and exposed nickelplated plumbing. A cemented cellar contains a laundry, heating apparatus, cold storage, etc. Mr. Henry S. Ihnen, architect, 119 Columbia Avenue, Jersey City Heights, Jersey City, N. J.

#### COVERED BROOMS.

A COVERED broom is a genuine boon to a tired housewife. These covers should be made in bag fashion, fitted over the brush part of the broom, and tied on somewhat closely with a string run in the upper hem. These should be made of cotton flannel of dark color, the best being dark gray, red, or any shade that does not crock.





## SUMMER CURTAINS.

THE topic of summer curtains is an annual delight. Hosts of new suggestions are poured forth each spring and early summer, and the curtain shops are filled with new models, many of them exceedingly light and delicate.

Japanese reed curtains, while no novelty, seem to have a special vogue this year. They come in so many different varieties of patterns and combinations of color that it is possible to match any scheme of furnishing.

More serviceable, points out a recent writer, are the Austrian prints. The foundation is cotton, and upon this appear figures in dark red or green, the fabric making an excellent drapery for doorways if considered too pronounced for curtain use.

Dainty to a degree are the curtains of bobbinet bordered with an applique of French cretonne roses and foliage in natural hues. Curtains such as these cost about \$15 a pair, and if the roses are not desired some other floral decoration may be substituted, morning glories making an admirable decoration. For a summer cottage curtains of cretonne and bobbinet are to be recommended.

There is nothing new to be said about *bonne femme* curtains. They hold their own, as they have for some seasons past, the straight effect drapery of this kind being preferred by many housewives to the full shirred curtain. These curtains are fashioned of point d'esprit with a little lace or applique to relieve the severity, and finished with a deep frill.

Scotch madras has been for many years the householders' standby for drapery purposes. Now there is a French madras that is making a successful bid for fashionable patronage. The usual run of colorings are green and brown and ecru blended in that artistic fashion that is characteristic of French productions.

The stained glass curtain is in particular demand. These inexpensive cottons are an admirable substitute for the real thing, and for the country home half window or in the den or sitting-room they are particularly well suited.

Decidedly picturesque, if not exactly a novelty in the drapery line, is a deep green net, resembling mosquito netting, only finer, and bordered with an applique of madras in harmonizing coloring.

The curtain of Italiane filet is one of the most expensive window draperies in the modish list. Because of its cost and its beauty it is allowed to hang perfectly straight. The groundwork of cream net is inset with geometric and floral designs in white, the two tones, producing a charming effect.

## STRAW MATTING AND GRASS FURNISHINGS.

THE artistic styles in Chinese and Japanese mattings, says the Furniture Trade Review, lend themselves to any number of uses aside from floor covering. Tables, fancy chairs, divans, settees, footrests, cushions, paper racks, and many kindred articles are made of them in combination with shaded bamboo, so extensively used this season. These mattings are cool looking and are largely introduced in wall coverings, entire rooms being covered with them and paneled off with shaded split bamboo. They are most effectively used for the lower finishing of walls, ceilings, and friezes, being barred off into lattice work of irregular and odd shapes with the bamboo, with the remaining part of the wall of burlap or prairie grass matting in solid colorings.

Prairie grass rugs and mattings are notably handsome, reminding one of rag carpeting in weave, the moss green shades being the most popular. This matting also lends itself artistically to wall covering. In the furniture line hat racks, hall seats, odd boxes, music racks, and tables, in fact, most things in furniture, are made from it and are selling well.

How much the world is expected to live out of doors this summer is suggested by the range of porch furnishings seen in the shops. Ease and comfort is the keynote. Porch sofas, divans, and settees show a wide range of shapes, and are suggestive of extreme comfort for out of door life, many being fitted at ends with small table arrangements of spacious basket receptacles large enough for any number of newspapers, magazines, fans, writing materials, etc. Some of the most attractive and inviting of these sofas are made of rattan or wicker in shades of dark green, with upholstered cushions or headrests of striped red and green cushion materials, red and green being the color combination in these goods this season. Some of the more elaborate corner seats of rattan are constructed with very high odd shaped backs, with shelves placed here and there or all around sufficiently large to hold a miniature summer library within easy access.

Lawn tables and the shelved portable English tea table are having good sale. These, with the many table arrangements seen on divans, make the serving of refreshments easy. Fancy tables of quaint designs are fitted with any number of shelves and pockets for the numerous porch trinkets; in fact, pockets and shelves are the striking features of much of the summer furniture.

Screens have been selling well, some of the best sellers being made of burlap or leather, with plain frames of weathered oak or shades of dull green, with wood top panels about one foot in width, decorated with burnt and stained designs representing English coaching scenes, Dutch scenes, and Indian canoeing and hunting scenes.

Summer porch pillows are of large variety, and pretty pillows are shown in fancy Japanese cloths of quaint designs, cretonnes and embroidered burlaps.

## A SUMMER COTTAGE AT DELANO PARK, CAPE ELIZABETH, MAINE.

THE summer cottage which is illustrated on page 124 has been erected for Dr. Swasey, at Delano Park, Cape Elizabeth, Maine. It has a broad, spacious piazza and large living-rooms, and is built on cedar posts with stone footings. The entire structure is enclosed with matched stuff and is then covered with white cedar shingles, left to weather finish. The trimmings are painted gray. The roof is covered with shingles and is stained a moss green. Dimensions: Front, 37 ft. 6 in.; side, 29 ft. 6 in., exclusive of piazza. Height of ceilings: Cellar, 7 ft.; first story, 9 ft.; second, 8 ft. 6 in.

There is no plaster throughout the interior of the house—the walls, partitions, and ceilings are ceiled up with yellow pine; the floor beams are exposed to view, and also the under side of the upper floor. The living and dining-rooms are wainscoted, and the partition between the two rooms is built of battens to the height of seven feet; the opening above is filled in with ornamental brackets. The entire woodwork is stained and finished in Flemish brown. The open fireplace is built of rockfaced gray stone, with the facings of the same rising and supporting a mantel shelf with brackets; the hearth is laid with brick. There are two paneled seats and an ornamental staircase rising out of the living-room.

The kitchen and pantry are fitted complete, and the lobby is large enough to admit ice box. There is one bedroom on this floor and five bedrooms on the second floor, besides ample closet room, and a bathroom furnished with porcelain fixtures and exposed nickelplated plumbing. A cellar, under part of the house, forms ample space for storage and fuel. Mr. John Calvin Stevens, architect, Oxford Building, Portland, Maine.

## RESIDENCE OF E. M. COATS, ESQ., AT SPRINGFIELD, MASS.

THE illustrations shown on page 115 present the residence of E. M. Coats, Esq., at Springfield, Mass. The underpinning and the first story are built of red brick laid with wide mortar joints. The second story is covered with shingles and is stained a soft brown color. The third story is half-timbered, with the spaces filled in with stucco. The beams and all exterior woodwork are of cypress stained a soft brown color. The roof is covered with shingles. Dimensions: Front, 44 ft. 6 in.; side, 65 ft., exclusive of piazza. Height of ceilings: Cellar, 7 ft.; first story, 10 ft.; second, 9 ft.; third, 8 ft.

The hall, vestibule, living and dining-rooms are trimmed with quartered oak. The vestibule has a tiled floor, and also the front porch has a similar floor; the former has a paneled wainscoting to the ceiling. The hall has a paneled wainscoting to the ceiling, which is beamed, forming panels which are filled in with wood. The staircase is an ornamental one, under which there is a side entrance. The parlor is trimmed with mahogany, and it has a wooden cornice.

The living-room has a paneled wainscoting four feet in height, and a bay window with paneled seat, and an open fireplace faced with carved limestone and a richly carved mantel to the ceiling.

The dining-room has a paneled wainscoting to the ceiling, and a ceiling beamed, forming panels. The butler's pantry is fitted with bowl, drawers, dressers, etc. The kitchen and its dependencies are trimmed with ash and are furnished with all the best modern conveniences. The kitchen has a marble wainscoting 4 ft. 6 in. in height.

The second story is trimmed with birch, and has six bedrooms and two bathrooms; the latter have marble wainscoting and tiled floors, and porcelain fixtures and exposed plumbing, all nickelplated. The third floor contains three bedrooms, bathroom, and trunk room. The cellar contains a laundry, the heating apparatus, fuel rooms, and a storage room. Mr. G. Wood Taylor, architect, 425 Main Street, Springfield, Mass.



## A CITY GARDEN.

THE word "garden" is so very generally applied to a considerable space that the value of the city garden and its capability for decorative effect are apt to be overlooked. As a matter of fact, however, the city garden is a very important affair, and the more crowded the city, the smaller the garden, the greater its value in relieving the monotonous effect of built-up portions.

A city garden, if properly treated, is, indeed, a thing of beauty, always well worth cultivating and amply repaying any labor put upon it. In the largest cities, such as New York, Philadelphia, Boston, and other well built up communities, the city garden, as a place of some interest, is too rare to have definite qualities of its own. In smaller communities, where more land is available and where the houses do not crowd each other too closely, it can be very beautifully treated.

Such a garden is that attached to the residence of Mr. Rutherford Trowbridge, in New Haven, Conn., illustrated on page 125. This has been treated by a landscape architect, and, although the materials employed—the simple walks, the graceful fountain, the beds of plants and flowers—are of modest form, the whole result is very fine and of the utmost interest. The garden is, of course, restricted in area, but a very happy use has been made of all the space.

Mr. Charles W. Leavitt, Jr., 16 Cortlandt Street, was the landscape architect of these grounds.

## THE PRIVACY OF ESTATES.

A RECENT writer has commented on the fact—which has certainly been observed by thousands of travelers—that one may travel through England by rail for many miles without so much as a sight of the house-top of the great country residences that abound in that land of great houses. The reason is obvious, for most of the older great houses were built long before the advent of railroads; they were built in the midst of large parks and without regard to their proximity to towns. In America different conditions prevail, and, although no great house is here built close to a railroad, the distances between stations and houses are seldom so considerable as in England.

But even in America the tendency to build the house in the midst of large grounds is becoming more and more marked, and the grounds themselves are becoming more and more to be the chief part of great estates that are visible to the traveler. This, of course, is a public loss, especially when the really decorative grounds are only immediately adjoining the house. It should be remembered, however, that great houses and great estates are brought into existence solely for the benefit of the persons who live in them. The right to build where and how one pleases has not yet been disputed in rural districts.

There is another difference between great estates in England and America that is worthy of comment. This is the freedom that is often accorded to strangers abroad to visit the grounds and often the houses of large property owners, while in this country such privileges are so seldom granted to the public as to be quite marked when they are. It is largely due to training and sentiment. The English public appreciates the advantages of visiting private grounds and conducts itself in an orderly manner. The American public might be just as appreciative, but it certainly would not be as careful. No one can blame a man who has spent a fortune in planting and developing a great estate in wishing to preserve it intact. If the American public has not advantages the English public has in this respect, it has only itself to blame. We need a little more cultivation of the rights of others, and of the rights of rich men before we can have the full value of their personal contributions to the art of building and of garden making.

## LAWN MAKING.

A MODERATELY rich soil is essential to a good lawn, because grass needs a great deal of nourishment. If the nourishment is not already in the soil, it must be supplied in the form of fertilizers. The proper fertilizer to use is a study by itself. Important as this food question is, it receives in most cases only casual attention. That is one reason why grass does not grow as it is expected to.

The topsoil should be broken up so finely that in a handful there are few lumps of any size, and the subsoil should also be broken up. This is chiefly to secure perfect drainage for the grass, and is a part of lawn-making which is almost invariably slighted. As a rule, the subsoil is left undisturbed, so that water may collect there to the detriment of the tender roots.





## Furnishings

### THE SUMMER HOUSE.

SIMPLICITY is the keynote of comfort in summer, says a daily paper. One-half of the pleasure that people derive from going to the country is in the novel simplicity of their surroundings in the country house—the plain-surfaced furniture, the homely floor coverings or honest bare boards, clean scoured; the lack of formality and the pleasant impression of screened doors that exclude insects but allow free views and ventilation. A good deal of this grateful, unpretentious atmosphere can be secured in the city house in summer if the housewife takes a little pains.

Stair coverings for summer use are in grades from inexpensive druggut up to the finest imported matting. Any sort is a welcome change from the carpeting which has been down all winter. An unmatted stairway is agreeable in summer if the wood is of such character that it can be stained and made presentable, but uncovered stairways, if much used, are noisy. So a strip of matting is the best arrangement.

In place of heavy portieres there are to be had good cotton draperies of glazed, silken surface that shed the dirt, are cool in color and suggestion, and moreover can be washed when necessary.

Curtains should be done away with. Even those of the sheerest lace, while pleasant to see, help to exclude the air. Curtainless windows protected with pretty shades and awnings are a becoming summer scheme, half curtains of muslin being substituted for the long flowing draperies at the bedroom windows.

Figured rugs and carpets and figured tapestries help to make a room look smaller—an undesirable effect in warm weather. The new cotton mixture rugs and art squares of fine grade and also matting rugs come in charming shades of green and wood colors, simple in groundwork with effective borders. In summer floor coverings the housewife has a wider variety of artistic designs to choose from at moderate cost than was ever previously offered. The additional comfort and the saving of wear to the winter carpets and rugs are ample compensation for the trouble and expense of substitution.

In the summer city home room doors should be left open as much as possible, and screens should be substituted for portieres whenever practicable, as they provide a lighter, more graceful effect. The screens, of simple framing filled in with bead paneling similar to the bead curtains, afford a cool, shimmering aspect, and at the same time are serviceable.

Charming screens are to had in green wickerwork or with panels of plaited twine, substantial enough to last for years, yet light and graceful to look upon. Besides these there are screens fashioned with linen, holland and denim panels, useful and comely.

In putting the drawing room furniture in summer dress not only the standing furniture, but the couch cushions and the headrests, should be eased in slips. The florid embroidery and rich garniture on these many cushions, which are so welcome an addition in winter, are distasteful in summer. In material for making slip covers there is now a wide choice of patterns. Many creditable substitutes for linen and holland are in the market, some of glazed surface cotton of cream or ivory ground, lined and striped in delicate tints. When covers of this character are used, the cushion slips can be similar, or else made in an all-over color to match the hue of the stripe in the furniture covers.

The wealthy folks with a half dozen homes to choose from are furnishing summer apartments for themselves after the homelike Old World models, in unvarnished Swedish and Norwegian woods, furnishings almost entirely bare of ornament and refreshing in effect.

Many gilded surfaces in mirror or picture frames are unsuitable for summer. They should be veiled in some fabric that resists dust, and any excess of silver or plated ware should be packed away, and china and glass substituted, thus avoiding the labor in polishing silver.

A skilful boarding housekeeper uptown, in New York, has a very rational mode of summer housekeeping. Every room is either matted or else provided with simple rugs on the hard floor. And ample screens are available, in order that doors can be left open at night. The stairs are matted.

By the middle of May all the awnings were up. Not a curtain was at any window except the sash curtains to supplement the shades at the bedroom and bathroom windows. The drawing-rooms were shrouded in linen, couches, chairs, cushions, entire. All superfluous ornaments were packed away, and the house, from entrance to roof, offers a tranquil, new-made aspect.



## The Foreign House

### DOMESTIC LIFE IN PANAMA.

As all eyes are now turned on Panama, a picture of the domestic life of Panama, given by a returned traveler, reproduced from the Tribune, is sure to be of interest.

The gentlewomen of Panama, according to this observer, are, in common with other Colombians, graceful in movement and charming in manner. The houses of the rich are large and often open on a central court, luxuriant with vines and flowers. Some of these courts are protected by awnings in the sunny hours, and some of them have perfumed fountains which are utilized for baths. But, truth to tell, the Colombians do not favor much bathing. An American girl was advised that her frequent use of water would ruin her complexion. Her friends daubed their faces and occasionally their necks with a little *aguardiente*, a sort of cane rum, and dried them with tiny lace-trimmed towels. The rooms do not usually contain much furniture, but are decked with a wealth of tropical flowers of exquisite fragrance. A rare plant of the orchid family bears the Flower of the Holy Ghost. The petals are of an alabaster white, and within them appears a miniature chapel of alabaster, containing a dove with drooping wings, the stamens and pistils producing the resemblance to the dove form. Other beautiful orchids abound.

Little upholstered furniture is used and the floors are tiled. In the sala, or parlor, is a double row of wicker rocking chairs down the center, and when a hostess receives she and her guests rock continually while they chat. The Colombians are a hospitable people and receive strangers cordially. It is customary for a stranger to send cards to those whose acquaintance he desires, and etiquette demands that the recipients of the cards call within a few days.

The dining tables of the rich are spread with fine linen and set with handsome cut glass and china. Among their beverages, in addition to wines, are cebada, barley water; orchada, which contains almond juice and sugar; agrass, the juice of unripe grapes; naranjada, orangeade, and a preparation of chocolate thick as gruel. A dish for invalids is *sopa de pan*: a raw egg is broken upon a slice of toast and a beef broth is poured over it. A breakfast often consists of several courses; for instance, fruit, poached eggs with stewed tomatoes and rice; fish, chops fried in eggs and herbs, and a tortilla con *seso*, brain omelette; sweet potatoes or other vegetable and coffee. Saffron is a favorite flavoring for soup. Chicken or game pies contain a variety of vegetables, hard boiled eggs, and other ingredients. A common dish among the poor is a stew called *sin coche*. Another standby is rice and red beans. Rice cooked in lard with a little *tasado*, dried beef, for a relish, is a tidbit among the lower classes. The flesh of the iguana, a species of land lizard, is regarded as a delicacy, and is said to resemble chicken. The natives slit the sides of living female iguanas and take from them strings of eggs as large as plums. They hang these eggs in the sun and dry them for future consumption.

The huts of the poor are of logs, with bamboo plaited sides and mud filled chinks. The windows have wooden shutters, but no glass. Sleeping places are bamboo benches with hide thrown over them, or hammocks woven by the women. Gourds of various shapes and sizes do duty for dishes, spoons, and knives. Chairs and benches are hollowed logs of wood. But the peons get their living easily and enjoy life well. They delight in music and dancing, and women as well as men are smokers. Cock fighting is a favorite amusement.

The peasant women are usually barefooted and bareheaded, with mantillas for special occasions. Their dress is a short skirt and bodice, or an ample, frilled, low-necked garment called a pollera. Even the poorer classes are bedecked with jewelry. The pearls of the Gulf are very fine, and the jewelers of Panama make beautiful necklaces, bracelets, etc., of finest gold threads, into which pearls are woven. Women of the upper classes take little exercise in the open air. When a family is in mourning the women frequently remain within doors for months behind closed blinds.

The bedroom candle depends upon the style of its holder for becoming an interesting accessory to the smaller furnishings of the chamber. The tin candlesticks covered with enamel paint and the colored china are the least expensive for cottage rooms. Hand-painted work may be introduced on fine white china candlesticks.



## New Books

### AMERICAN RENAISSANCE.

AMERICAN RENAISSANCE: A REVIEW OF DOMESTIC ARCHITECTURE. By Joy Wheeler Dow. New York: William T. Comstock, 1904. Pp. 182; 96 plates. Price, \$4.00.

Mr. Dow has written an agreeable and entertaining book. Moreover, he has produced a useful one, since every book which directs attention to the important subject of domestic architecture is welcome. He writes engagingly and well; he has something to say, and he says it in a way that is sure to attract attention. As much of what he says is very decidedly to the point, his book is one of real value.

The author follows the historical treatment of the growth of American domestic architecture in a topical manner. His point of view is both critical and historical, and he reverts to present day conditions in an exceedingly happy manner that brings out the real lesson which should be drawn from past achievements in the art of domestic building.

The potent charm of good old work is very real to Mr. Dow, as it must be to every intelligent man who views it in the right spirit, which is clearly that of admiration. But he very rightly points out that, because an old piece of work may be fine, we must not imagine that we can instantly translate it into modern work with any assurance of good results. This is a point too often overlooked by the copiers and adopters who pass as architects in the present day and generation, who too often reproduce forms and detail without, in any way, reproducing the spirit. That Mr. Dow writes from a very high ethical standpoint is apparent from his statement that "the profession of architecture, even more than that of the ministry, should be entered without hope of much financial gain." In these days, when every architect is striving to accomplish as much as he can, because, forsooth, his bank account may be so much the greater, it is refreshing to find an architect putting forth such noble sentiments.

The book has been given a very handsome dress by the publisher, and is beautifully illustrated with ninety-six half tone plates, which include many illustrations of good domestic work, past and present. As the book is a review of American domestic architecture, the illustrations of old work naturally predominate, and of the modern illustrations not a few are brought forward as the unhappy efforts of current methods as compared with the more honest and more artistic work of the past. Most of the examples of old work are buildings not well known; they have been selected with the utmost care and discretion and constitute a fine collection of the finest examples of American domestic architecture which is really architecture this country can show.

### HOW TO MAKE A FLOWER GARDEN.

HOW TO MAKE A FLOWER GARDEN. A Manual of Practical Information and Suggestions. New York: Doubleday, Page & Co., 1903. Pp. 370. Price, \$1.60, net.

This book, which appears without an editor's name, is made up of a host of articles, notes, and miscellaneous contributions apparently garnered from periodical literature. It is sumptuously illustrated, and most abundantly, and published at a price obviously below its value.

The contents of the book, being drawn from many sources, is necessarily of varied value: a note on pergolas, on page 107, is singularly pointless and without informing or suggestive value. But, as a whole, it is brimful of information, and is filled with suggestions and ideas, most of which are both helpful and inspiring. The garden lover will here find animated descriptions of notable gardens; the amateur, about to start in garden work, will find abundant suggestions of what to do and how to do it; the owner of present gardens will be helped and benefited by the many notes of others engaged in the same beautiful work. The book is enriched with two appendices of special practical value. One is a special list of flowers based upon the color and season of bloom, the height of the plant, the kind of soil, the conditions of shade or sunshine, the resistance to frost, and other qualifications. The final appendix is composed of brief directions for cultivating a hundred and fifty of the commonest flowers, chiefly annuals and perennials. These two chapters are crowded with practical information of the most valuable kind.

The decorative value of books is now generally recognized, but a book's value depends on its contents, not on its cover.







## Publishers' Department

### FAIENCE.

ITALY's sphere of influence, so broad in many of the arts, is incontestable at least in "Formal Gardens." Whatever the extent of "our acre," the character of its soil, the surface contours, or the lines of the mansion thereon; whether the genius of nature throws around the plot a temporary waste or a relief seating of rich dark background, the unrivaled finished Italian garden must be the feature, the nub of the whole ground scheme of beautification. In this country we live at a time when the right principles of form and proportion are getting fairly well understood and in many cases put into notable achievement. So true is this growth that in the past five years the formal garden has become popular to the extent of looking as if every country place laid out with the idea of beauty must now have it, and, pergolas, and terraces, all of which are creations from the Italian, and, good ones, since they give a thoroughly satisfying method of adding dignity, embellishment, and grace. Marble has been used almost entirely for the columns, fountains, seats, and other pieces necessary to the completeness of the garden. A few innovators are employing cement and artificial stone, but will others be bold enough to think of turning to "faience"? Faience comes from the Italian, and it seems strange that it has not been considered in connection with formal gardens, unless the free use of lovely white marble has made it appear extra-prohibitive to introduce tint novelties. How satisfactorily the Della Robbias used it! And their work stands to-day as marvels in the world of artistic production. With "faience" you can get color; and preciousness of color that holds the gloss of unvanishing refinement or the soft finishes of dullness. In the pergolas, for instance, how much more satisfying would be the result if, instead of all white columns, there should be used columns of white, with a touch of soft green at the capital. How well it would harmonize with the pinks, greens and reds of nature's coloring! How easy it would then be seen that, with all the exquisite reaches of the Italian taste, it has been too pervasive with its white, the result of the fondness for its favorite marble! "Faience" can be made into columns, seats, sun-dials, tables, or any of the pieces necessary for the formal garden decoration, and, instead of all white, the blues, greens, browns, and yellows may be worked harmoniously into the scheme of nature's tinting. Knowing "faience" to be a standard material for ornamental work, we have looked up its qualifications for the purpose of giving our readers hints on the output, that might lead to further investigation. A prominent firm, the Hartford Faience Company, informs us that it has "reached the threshold of perfection in the production of architectural faience," and that it is in a position to offer suggestions about its adaptability to formal gardens, and also practical points about its utility, durability and economy. The address is Hartford, Conn.

### ROOFING.

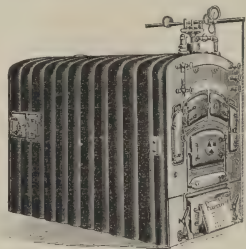
It is earnestly to be wished that cases of illegal appropriation of the merits earned by manufacturers for their goods could be more thoroughly prevented. Parties may do a large amount of advertising, produce a great quantity of material and create a universal satisfaction by sane and commendable habits of industry, and in time find that unscrupulous competitors are putting upon the market very inferior imitations of their outputs under names which are calculated to deceive the public. Taking the ground that this method of deception should be noticed wherever spotted, we can but regret the occasional notice and protest in relation to this phase of piracy. We have at times been called upon to give that note of warning which is so acceptable to those bearing the burden of this peculiar grievance. A case in point we are familiar with is that of a roofing product. Poor material is known to have been made so as to take advantage of the great demand established by the owners of the brand called "Flintkote Roofing," and to such an extent as to compel the true manufacturers to make it known that hereafter its roofing will be known as "Rex Flintkote Roofing." J. A. & W. Bird & Company, the manufacturers, announce that hereafter their advertising matter, and the wrappers on their rolls, will all bear the new trade-mark, the imprint of a boy with a roll of roofing in his arms. Write to the above firm, No. 45 India Street, Boston, Mass., for full particulars about this excellent roofing, all imitators and infringers of which will be prosecuted to the full extent of the law. The company has offices in five other cities: New Orleans, St. Louis, Chicago, Montreal, and New York.

### MODERN STEAM AND HOT-WATER HEATING.

The various systems of modern heating now stand in full character and capacity equal with any of the important accomplishments fairly well secured in making living more healthy, economic, and comfortable. That some are inferior to others is obvious, and the reasons are bound to be thrashed out more than ever at a time following the persistent hold of the recent winter temperature. The coldest winters experienced generally, since the different methods of heating have been inaugurated, are not, as a rule, followed by an immediate warm one, and the lessons learned during the last cold period will give an incentive to inquiry as to the best means to make improvements to meet the next. Until the correct heater be found, the words monumental or frigid failure will be judged not too severe when hurled at a poor heating device, whatever the circumstances are that pile up to militate against good service. There are many causes, some unseen, outside of the heater that do this, but there are systems of heating that can overcome them. Of these, steam and hot-water heating are now very widely held to be unsurpassed. Comparatively few people, however, are aware of all the many great advantages enjoyed by the use of a system that may be briefly enumerated as follows:

First.—The heat derived from a steam or hot-water system is thoroughly healthy—the air of the rooms being heated by contact with the radiators, and, consequently, not becoming a mixture of coal gas, dust, and smoke. Second.—It is possible to thoroughly distribute the heat—thus enabling an evenness of warmth and uniformity of temperature to be maintained throughout the building. Third.—An efficient and properly installed steam or hot-water apparatus requires little care and attention. It is safe, durable, simple in operation, and the average housewife or servant girl can easily attend to the management.

Finally, great economy of fuel is obtained by use of these systems, the saving in fuel often averaging from 25 to 33 1-3 per cent. This fact alone should appeal strongly to the prudent and thinking house owner, as



NEW SECTIONAL BOILER.

It will be apparent that the first cost of the system will be entirely saved in a few years' time. We present in our columns an illustration of the Furman New Sectional Boiler, for steam and hot-water, manufactured by the Herendeen Manufacturing Company, Geneva, New York. We believe this boiler represents an unsurpassed and most efficient type of boiler construction for heating purposes, and we suggest and commend an investigation of its merits by all who are interested in this most important question of healthful and economical heating. The company above named will be pleased to send, free upon request, its descriptive literature.

We suggest the choice catalogue on Furman Boilers, twenty-fifth edition, 1904. It is superbly printed on highly calendered paper, and the illustrations are as perfect a bit of work as the half-tone can produce for mechanical purposes. The written matter is such a terse and luminous exposition of the construction of boilers and their use that any interested reader should be able to critically study them with a facility and complete understanding of their superior points and accomplishments. These practically self-cleaning boilers are now made in over two hundred different styles and sizes, embracing sectional, portable, and brick-set types. A sufficient number of these types and their accessories are shown in the catalogue, together with rules and limitations on ordering them, that will give the seeker after steam and hot-water heating just the knowledge that is needed to prepare in time for the next cold season. The Herendeen Manufacturing Company was established in 1863, and, besides the boilers under notice, makes radiators and steam and water supplies. Branch offices are at No. 39 Oliver Street, Boston, Mass., and No. 39 Cortlandt Street, New York, N. Y. General office and works, Wagner Street, Geneva, N. Y.

### ACETYLENE BURNERS.

We desire to call the attention of our readers to the fact that a recent and very interesting decision has been handed down by Judge Townsend, of the United States Court of Appeals, of the City of New York. The

decision was published on March 23, 1904, and it sustains the lower courts in support of the Patent No. 589,342, which covers a process of using air in connection with acetylene gas for illuminating purposes. This is a broad patent and has been broadly sustained. The decision is very important, and was rendered in favor of the State Line Manufacturing Company, of Chattanooga, Tenn. This company are the sole licensees in the United States under the patent, and it is with considerable pleasure that we chronicle the victory. When a cause invoking a judicial judgment is fairly decided, the right interpretation gives confidence to the owners of patent rights that is a substantial encouragement to business enterprise. The company manufactures the D. M. Steward's patent acetylene burners, and has agencies established in leading foreign countries. A particular feature of its output is the well known "Wonder" acetylene burner. The State Line Manufacturing Company has an Eastern and export office at No. 107 Chambers Street, New York; a Chicago office at No. 57 Washington Street.

### BUILDING IN CUBA.

The majority of the houses in Cuba, points out a contemporary, requiring skilled labor, are built of brick or of a cement and rubble composition called mamposteria. Stone is used in some of the more pretentious city edifices. Frame buildings are to be found occasionally in the suburbs of the larger towns, especially in the summer resorts near Cienfuegos, Santiago, and other coast places. While of modest dimensions, these are frequently well built. The wooden buildings, common in the country and smaller towns, are usually of very crude construction. In a few of the older and less progressive towns, adobe or wattle construction is even now being used. Most of the country people of Cuba reside in palm-bark huts, which are made and repaired by the occupant without the employment of hired labor. Consequently the number of men engaged professionally in the building trades is not relatively a large percentage of the population of the island.

According to the census statistics, there are less than half as many masons as carpenters in Cuba. There are also many men employed on buildings as masons' helpers who do not rank as members of the trade. The best trained workman in a community is often a black man, and frequently when houses are being erected or repairs made in Havana and its vicinity, the foreman in charge of the work is a full-blooded negro, while many of the men under him are whites or mulattoes.

Construction is not accurate, and traditional methods, forms, plans, and design are used to such an extent as to make one Cuban building appear very much like another. The massiveness of the masonry, while often explained as necessary to withstand tropical storms or earthquakes, is really due to the inferiority of the materials employed, the lack of knowledge of structural economics on the part of builders, and an unevenness in the skill of workmen that makes it necessary to allow a large margin for possible errors in the work.

Skilled bricklayers receive from two dollars to three dollars a day in Spanish silver. Apprentices are paid about half that amount. A good man can lay—parallel or in any of the imperfect bonds in common use—300 to 350 bricks a day. These bricks measure 11½ in. by 5½ in. by 3½ in., so that about 40 cubic feet of wall is considered a normal day's task. Hod carriers and other helpers receive about seventy-five cents a day.

The laying of roof tiles is not considered a separate branch of the trade—unfortunately for the people who live under them—and is usually done by the same men who build the walls. Plastering over lath is not practiced in Cuba, and there is little or no hard finishing. Exterior brickwork is always cemented over.

### HERCULANEUM.

COMPARED with the neighboring buried city of Pompeii, Herculaneum has been comparatively neglected by the excavator and archeologist. Since the first attempt recorded in the days of Charles III. to dig over the site of the theater, only partial excavations, and these in a modest and tentative manner, have been made—in 1828, 1837, 1853, 1869, and 1875. But it has now been decided, at the suggestion of Dr. Charles Waldstein and Mr. Shoobridge, to appoint a central managing committee in Rome for the purpose of fully exploring the site. Herculaneum, both from its past history and from the objects hitherto found there, gives promise of being a far richer field of excavation than Pompeii. Owing to the fact that the town of Resina was built over the site, no excavation on a large or comprehensive scale has ever been attempted. There is now, however, every hope that the great cost involved, owing to the magnitude of the work, may be successfully met.—Building News and Engineering Journal.









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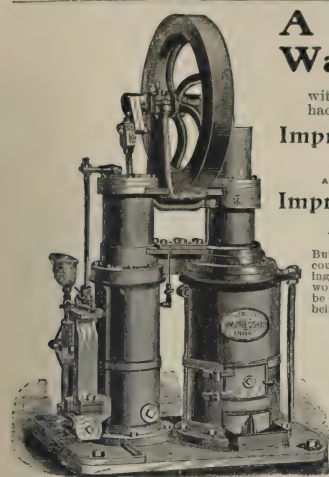
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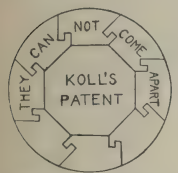
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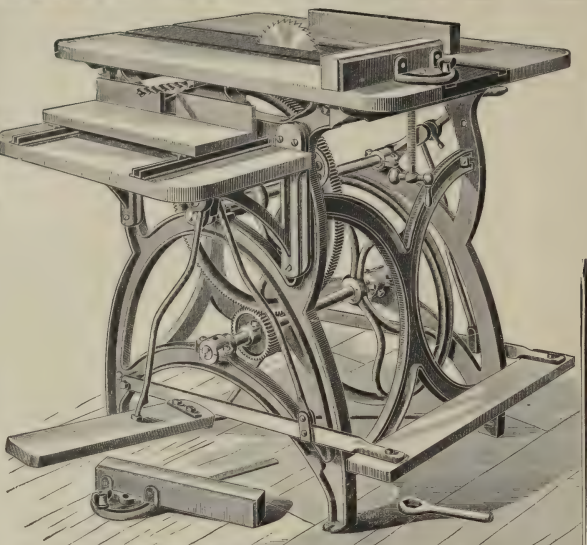
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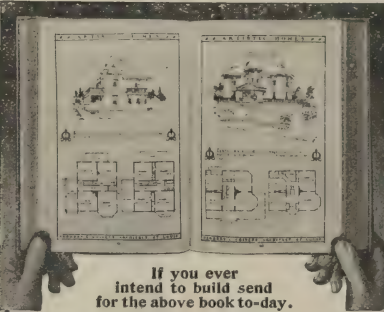
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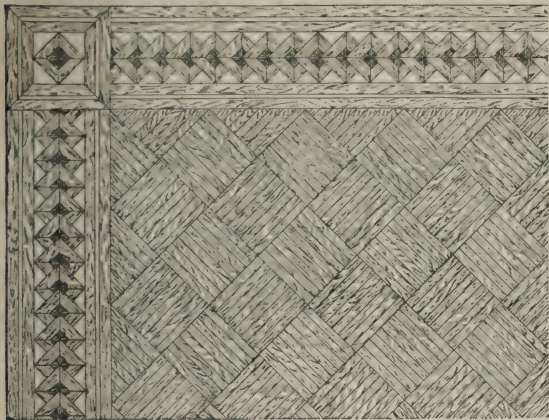
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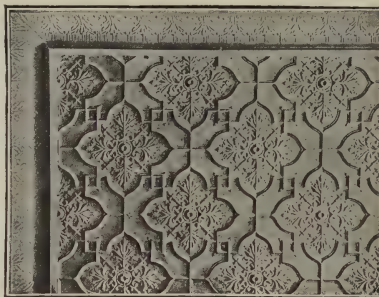
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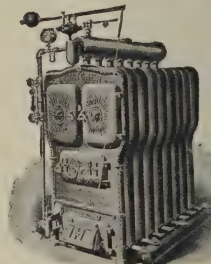
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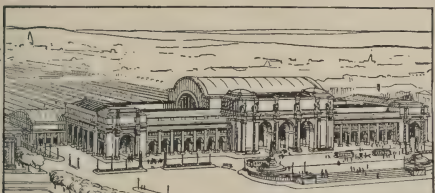
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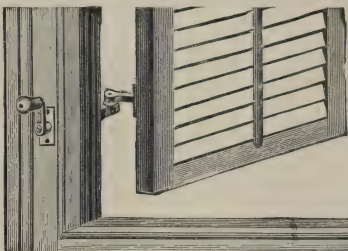
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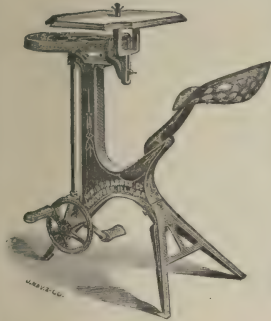
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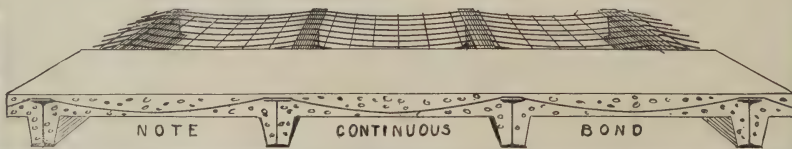
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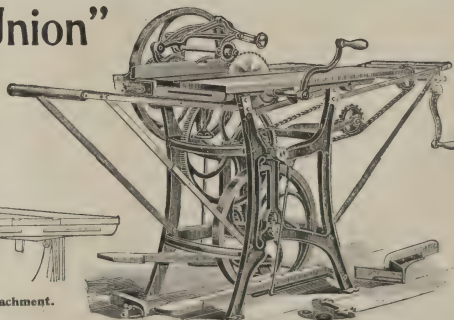
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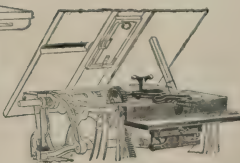
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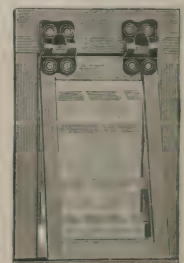
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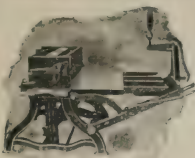


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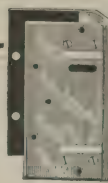
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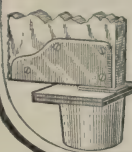
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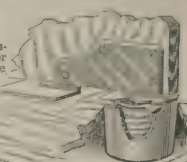


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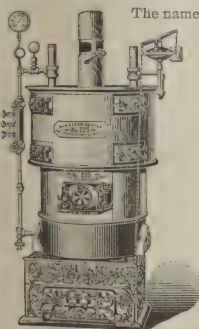
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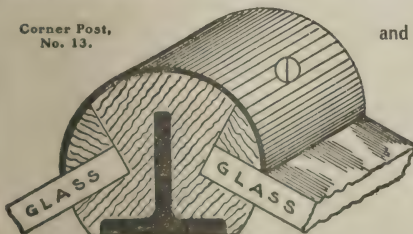
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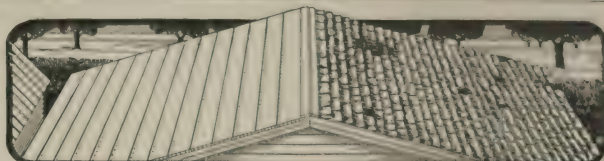
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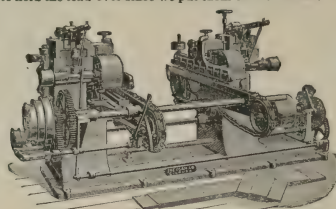
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# SCIENTIFIC AMERICAN

Building Monthly.



"KILDYSART," THE COUNTRY SEAT OF DANIEL O'DAY, ESQ., DEAL BEACH, N. J.

No. 225

JULY, 1904

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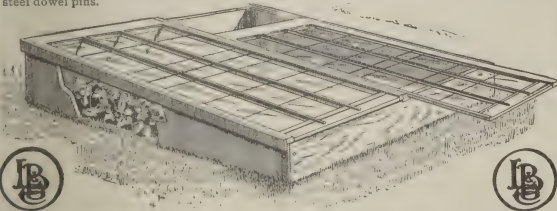
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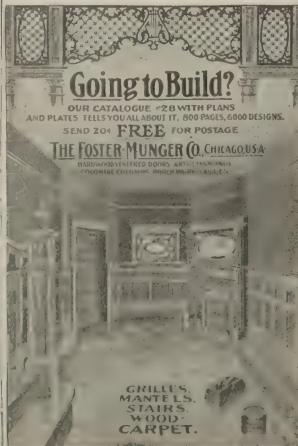
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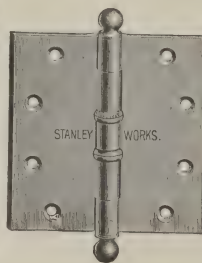
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VIEW FROM THE ENTRANCE OF "KILDYSART," THE COUNTRY SEAT OF DANIEL O'DAY, ESQ.,  
DEAL BEACH, N. J.—See page 3.

MR. G. K. THOMPSON, ARCHITECT.



# SCIENTIFIC AMERICAN BUILDING MONTHLY

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\*The engravings presented in this issue are made from photographs taken specially for the SCIENTIFIC AMERICAN BUILDING MONTHLY.

## MONTHLY COMMENT.

CAN art be taught? Mr. W. M. R. French, the director of the Chicago Art Institute, thinks it can, and has recently published an article telling why he supports this view. What are commonly called art schools, he writes, do not claim to be anything more than training schools in the technic of a profession in which technic plays an unusual part. Probably the best education for an artist, he adds, is a combination of the art school and the studio of the experienced artist, and it is something like this that our best and most fortunate men get. By the systematic practise of the school, the student acquires good methods of handling material, learns where to put the point of his pencil, becomes acquainted with such formal branches as anatomy and perspective, gains a general acquaintance through library and lectures with the history of art, and lays an invaluable foundation for future achievement. Mr. French, while largely confining himself to the education of the picture painter, goes on to point out the many modern practical uses of art in applied art, and pertinently he asks how the technical knowledge that is needed for this work can be obtained unless we have schools in which such training can be taught. He maintains that every town of three or four thousand inhabitants requires at least one good drawing teacher. His arguments are drawn from wide experience and most extended observation, and constitute an important contribution to the literature of a subject that, too often, is discussed with violence on both sides and, by the opponents of the schools, without a proper appreciation of the work these institutions really set out to accomplish.

THE announcement of a new and presumably final edition of the writings of Mr. Ruskin, edited under auspices that he himself would have considered ideal, directs anew attention to this remarkable writer. The fame of Ruskin has long since ceased to be secure among artists, yet as a matter of fact Ruskin did

more for art than many artists of his own day, or many artists before or since. His strength is that of the writer only. That his art criticism was strongly personal and opinionated is well known, but as a writer of most eloquent English he stands supreme among the men of his time. His point of view concerning architecture was esthetic, philosophical and moral, and he discussed his topics from the loftiest standpoint and with the most unbounded enthusiasm. The rabid anti-Ruskinite is as far wrong as his most enthusiastic supporter. Notwithstanding his failings, notwithstanding his unreliability as a guide in art matters, it is probably true that his influence has, on the whole, been for good.

THERE has recently been opened for the delectation of the public in New York a summer pleasure resort of the most sumptuous description. Competent architects planned it, wise builders backed it, and vast sums of money were forthcoming for the erection of pleasure palaces and other structures needed to make the place at once a source of pleasure to those who visit it and of profit to those who have put their money into it. One point of special interest has been the liberal use of color as a decoration of the buildings. In this respect this place is quite unique in the artistic annals of pleasure resorts. The great international exhibitions have long made our public familiar with the value of sculpture as a decorative adjunct to architecture, but it has remained for Coney Island—of all places in the world!—to teach the lesson of the value of mural painting on the exterior of buildings. Several structures in a new resort in this famous place are decorated with paintings, and very novel and successful they are. One important practical lesson is that the results have been obtained at very much less cost than would have been required to produce an effect with sculpture. The mural painters of this country have not been very successful in obtaining opportunities for the practical display of their art, and, so far as popular appreciation goes, it is yet in its infancy. The new work at Coney Island, some of which has been done by an artist of well known standing, is a move in a new direction which must greatly help in extending the appreciation of this beautiful art.

## SAD ARCHITECTURE.

LET no one for a moment imagine that this article is concerned with the funeral and memorial structures that make up the architecture of cemeteries. Little of that sort of construction is of sufficient interest to warrant chronicling, and much of it is so sadly sad as to have no place apart from death memories. But there are other types of architecture so truly sad, so heartrending in their effect upon those who view them, so depressing in their influence upon those who live in them, so altogether frightful as to be but the saddest sort of commentaries upon human life and upon the ways in which hard-earned money is spent and transformed into permanent edifices.

A building, even of the poorest sort, has elements of permanency. The flimsiest of building materials have a durability that is often astonishing when put together into the semblance of human habitation. Geological knowledge is not necessary to realization of the permanency of stone, and the child has thorough knowledge of the enduring qualities of brick. Wood does not rot in a day, and the fall of a building in the process of construction is a calamity so notable as to invariably call forth the horror of an entire community.

The permanent element in building is, of course, a varying quality. There is now on view in St. Louis a vast group of structures representing an outlay of nearly \$50,000,000, none of which is intended to be used six months hence. But this is an exceptional case; and while some structures are erected most properly to last but a short time, the majority of buildings are expected to have a life-tenure of some reasonableness.

Any work of the human hands and mind that has qualities of durability should possess merit. This proposition is so self evident as to be axiomatic. A building is not worth erecting unless it is well built. Its excellence may be in design, it may be in construction, it may be in purpose; some merit, at least, it should have, and merit that is clear and unmistakable. Why, then, are so many buildings of little merit, and so many of no merit at all?

One word sums up the whole situation: Ignorance. It may be the ignorance of the person for whom the building is erected; it may be the ignorance of the person who performs the work of construction; it may be because the intelligence of the community in which the structure is put up is low and undeveloped; but ignorance covers all architectural sins—sins of commission and sins of omission.

A building that has no merit is the saddest sort of a building. It is vooe crystallized and permanent in building materials. It is worse than a nightmare, for the dream passes away on awakening and becomes

a formless memory because there is no permanent material on which reality may thrive. But a building is something real; it may be seen by any one who will take the trouble to view it, and it is, unfortunately, very visible to many who would, if they could, close their eyes to it. It is a memory that will not down, for there it is, real and dreadful, with all the horrors of its impossible art.

Absurd buildings, thoughtless buildings, buildings without merit, buildings devoid of interest, foolish buildings; these constitute the body of the great group of structures that can best be classed, as a whole, as examples of sad architecture. They are sad because they make one sad. They make one sad because they show how ready men are to spend money on erecting buildings that never should have been erected.

It is an essential fact in architecture that buildings should be as beautiful as it is possible to make them. Beauty is the noblest expression of architecture. It is unreasonable to expect it in uniform amount in every structure; but it is not going too far to insist that every structure should be as beautiful as possible.

Poor humanity can not, by mere will power, make itself beautiful; but even the plainest face can acquire interest through education and refined thinking. Ugliness exists in the world, and sometimes a good deal of it; the man who adds to the visible supply, who adds to it in the permanent form of a building, is not only no benefactor of his race, but a serious deterrent to human progress. A man must take the features and form that nature gives him; but the misfortune of human ugliness is not remedied by thrusting ugly structures upon nature's bosom, and rearing buildings devoid of merit.

It is disheartening to think of such buildings; it is worse to contemplate them; it is unmentionable to think and to know of their duplication and reduplication. There is more thought, more energy, more art put into buildings to-day than at any time in the memory of living man. The unfortunates of the middle ages seemed able to build and design beautiful structures right off the bat, without thought or premeditation. Actually it may not have been so; but beautiful building came naturally in that unlighted era. In our own brilliant civilization the building of frightful structures seems to be quite as natural. Never were the excuses for poor designing so slight and flimsy as to-day. Our architectural schools are thronged with embryo architects; our builders are men of sense and penetration; the men who build have ample funds and ample means of familiarizing themselves with examples of good building. Yet the frightful structure will not down. Like the poor, it seems to be with us, and with us always.

And the most distressful case is the worst of all: it is the man of knowledge who builds badly. It is terrible to think of the rooms that are furnished and decorated even in this day of professional decorators and high prices for expert advice. But, at least, such rooms are private; if they give joy to the owner, he hides his hideous treasures within the privacy of his own dwelling. His idols are his own, and no one worships at his badly decked shrine save those he admits to his uncouth intimacy. But a bad house is a public nuisance. It thrusts its ugly front upon the attention of the casual passer by. It will not be ignored, and it can not be effaced. It may permanently degrade a fine thoroughfare; it is invariably so well built as to add the horror of permanency to its other qualities.

Yet the outlook is not wholly bad. Of sad architecture we have an abundance, and served fresh daily; yet its sum total appears to be diminishing. People who, of their own information, have no knowledge of architecture, have awakened to the value of handsome buildings. It is still true that the good looking house, the artistic house, the refined house, is an object of cost and luxury. The cheap, small house that every one wants and is so ready to pay for at the smallest cost is not yet produced in high grade of art. Good building is an expensive thing, and refined building is not cheap; yet that most delightful buildings were built at small cost the relics of the middle ages still show us, with their provoking wealth of lovely things for all sorts of purposes.

And sad architecture, bad as it is, is not without its value. It is sometimes as necessary to show what not to do as to offer examples of the correct thing. Sad architecture has, therefore, the value of the "awful example." But we need no more of it; there is such an abundance of sad architecture in the world that many years must elapse before it can be eradicated from off the face of the earth. And the relationship of the people at large to architecture is such that, were it possible to instantly erase all evidence of such grotesqueness in architectural manners, a very capable person would instantly, out of the fullness of his ignorance, proceed to erect a fresh horror, and thus keep alive that feeling of sadness which distressful buildings must call forth in every honest soul. This, no, doubt, is the saddest fact of all.



## NOTABLE AMERICAN HOUSES\*

BY BARR FERREE.

"KILDYSART," THE COUNTRY SEAT OF DANIEL O'DAY, ESQ., DEAL BEACH, N. J.

THE sandy shores of the New Jersey coast have not generally been found fruitful spots for the laying out of great estates and the building of sumptuous houses, yet Mr. G. K. Thompson, the architect, in the house and grounds planned and arranged for Daniel O'Day, Esq., at Deal Beach, N. J., has produced a house of the first rank in size, and one of the most notable of recent American houses.

It is a splendid property, not large, as country estates are now measured, consisting of but twenty-five or thirty acres, but quite large enough to call for the exercise of fine architectural ability, and so admirably planned that the great house which forms the center around which the grounds have been laid out has a fine and beautiful setting for itself.

Both house and grounds are entirely original and distinctive. The main entrance, with massive gates, is at a terraced approach on Sydney Avenue. The railroad track is immediately spanned by a seventy foot bridge of heavy timber, ornamented with wrought iron; thence to a circle in the center of the grounds, and thence again directly to the house; another bridge, a splendid structure of brick, spans an immense sunken garden; and the roadway comes to an end in a second circle with a sun dial, just before the house. A wonderful series of views can be had from this point, and standing here one looks back upon the just-traversed driveway, through avenues of pine and hemlock, across the lake to land two miles away.

The dominant feature of the house is the great tower. It is a strong piece of design, in itself larger than many houses, giving dignity to the building of which it forms a part, and put to so many varied uses as to have a decidedly utilitarian purpose apart from its esthetic value.

As to the house, it may be briefly described as a complex edifice composed of three chief parts: the main house, intended for summer use; the tower, and the annex, for winter use. It is well to keep this triple division well in mind, for the total length of the front is about 200 feet, and its varied divisions will not be understood until the reason for its many parts is made clear. The tower actually acts as a dividing line; in its lower story, which serves as a porte-cochère, it entirely cuts the building into two. A free rendering of the Elizabethan has been chosen for the architectural treatment, and stone, brick, terra cotta tiles, cement, and chestnut wood enter into the constructive details. An elaborate color scheme has been chosen, the brick and roofing tile being red; the

Indiana limestone and cement are in their natural tints, and the wood is stained black, showing the natural grain.

The chief feature of the interior is the great hall in the center of the main house. It is about 40 feet wide and 60 feet long, and is 40 feet high. On one side is the grand staircase; on the other, a large mantelpiece of Caen stone, decorated with a sculptured group, by Fernando Miranda, symbolizing the union of the ocean and the lake. The strong cornice is supported by square channeled piers or columns; and over each, in the coved ceiling, are life-size caryatides by the same sculptor. The hall reaches to the full height of three stories, with a double gallery; the lower open to the central space, and enclosed within railings; the upper provided with circular windows.

The plan of the house calls for rooms of great variety. On the first floor, and opening from the hall,

The annex, which is intended especially for winter use, is, of course, available for occupation at all seasons of the year. On the ground floor is the billiard-room, private dining-room, and auxiliary kitchen, with pantries, and serving-room. On the second floor is the owner's private bedroom suite, consisting of parlor, library, baths, balconies, sun parlor, and maids' rooms. More bedrooms and baths are placed on the third floor, and the basement is occupied by the laundry. The house contains in all about fifty rooms and ten bath-rooms.

The interior furnishings and fittings are in excellent taste. The principal rooms are furnished in hardwood with elaborate carvings, wainscots, cornices, and ornamental plaster ceilings. Most of these rooms contain open fireplaces, with mantels of stone, marble, brick, and wood. The bathrooms are throughout furnished in marble and tile. Bright colors fittingly adorn

the bedrooms, which are furnished in several styles, including some elaborate Empire designs. The chief rooms in the first story are in the late English styles or of classic design, with walls frescoed or in solid colors, with tapestry hangings. Much special furniture has been provided, and the house abounds in nooks, window seats, and Turkish corners. An elaborate system of electric lighting has been installed, and fire apparatus and hose lines have not been forgotten in the arrangement of the utilitarian fixtures.

One must necessarily be brief and somewhat general in describing a house as large as this. The mere enumeration of the rooms fills space, and a detailed recital of their furnishings and characteristics is out of the question. It will, perhaps, be sufficient to be content with generalities, and to note the very apparent fact that the architect's work has been done with care and with due regard to the effect of the whole.

Although the grounds have been described as somewhat circumscribed in area, their actual extent is considerable and quite sufficient for the great house to which they belong. They are, in fact, so extensive that the bridge path which winds about them has a total length of about a mile and a half. The house stands toward one end of the park, but the other buildings of the estate constitute a formidable list. They include a stable, greenhouse, boat-

house, summer houses, log cabin, rustic shelters, gate lodge, gardener's cottage, bridges, and other buildings. All of these have been designed with the utmost care; each structure not only has its own use, but each has its own part, and a very distinctive part, in the effect of the whole design.

A special feature of the grounds is the sunken garden. It forms a noble L, about fifty feet wide and eighteen hundred feet long—truly regal proportions—and extends from the greenhouse to the aquatic garden in a basin at the lake, to the level of which it is brought by a series of steps. At the lake the garden is twelve feet below grade, and is laid out in flower beds and shrubbery, divided by gravel walks, laid with a gravel of an ivory white tint.

The bridge which carries the main driveway over the sunken garden is a beautiful structure about a hundred and twenty-five feet long, with two elliptical



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THE GREAT HALL IN "KILDYSART," THE COUNTRY SEAT OF DANIEL O'DAY, ESQ., DEAL BEACH, N. J.

are the banquet-room, conservatory, breakfast-room, music-room, reception-room, parlor, children's parlor, butler's office, pantries, and halls; on the second floor are twelve bedrooms, together with dressing-rooms and baths. All of them are approached from the balcony around the hall, and most of them are provided with exterior reading balconies. The third floor contains the servants' sitting-rooms, bedrooms, and baths, which are reached by a special stairway from the basement, which, in its turn, contains the main kitchen, pantries, storerooms, servants' dining-room, heating apparatus, store cellar, and wine cellar.

Allusion has been made to the multiple uses to which the tower is put. Its chief purposes are twofold—to serve as a water tower and also as an observatory. But, in addition to these special ends, it is so large that space is found within it for bedrooms, a completely equipped gymnasium, and a large playground for the children.

\*Previous articles in this series: "RITMORE," THE ESTATE OF GEORGE W. VANDERBILT, ESQ., RHINEPOLE, N. C., February, 1903. "THE GARDEN AT 'GEORGIAN COURT,'" THE HOUSE OF GEORGE J. GOULD, ESQ., LAKEWOOD, N. J., AUGUST, 1903. "HARBOR HILL," THE ESTATE OF CLAUDE H. MACKAY, ESQ., ROSLYN, N. Y., September, 1903. "THE ORCHARD," THE COUNTRY SEAT OF JAMES LAWRENCE FREERE, ESQ., SOUTH SHIELD, N. Y., November, 1903. "THE RESIDENCE OF W. L. STOW, ESQ., ROSLYN, N. Y., December, 1904. "WHITE HALL," THE HOUSE OF HENRY M. FLAGLER, ESQ., PALM BEACH, FLA., JANUARY, 1904. "FARMER FARM," THE ESTATE OF MRS. CHARLES F. SPRAQUE, BROOKLINE, MASS., MARCH, 1904. "THE HOUSE OF E. J. BERWIND, ESQ., NEWPORT, R. I., APRIL, 1904. "CHAIR," THE ESTATE OF J. MITCHELL CLARK, ESQ., NEWPORT, R. I., MAY, 1904. "BLAISEN," THE ESTATE OF C. LEDYARD BLAIR, ESQ., BERNARDSVILLE, N. J., JUNE, 1904.





RECEPTION-ROOM.



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THE BRIDGE OVER THE SUNKEN GARDEN.

"KILDYSART," THE COUNTRY SEAT OF DANIEL O'DAY, ESQ., DEAL BEACH, N. J.—See page 3.

MR. G. K. THOMPSON, ARCHITECT.





A RUSTIC HOUSE.



THE SUNKEN GARDEN.

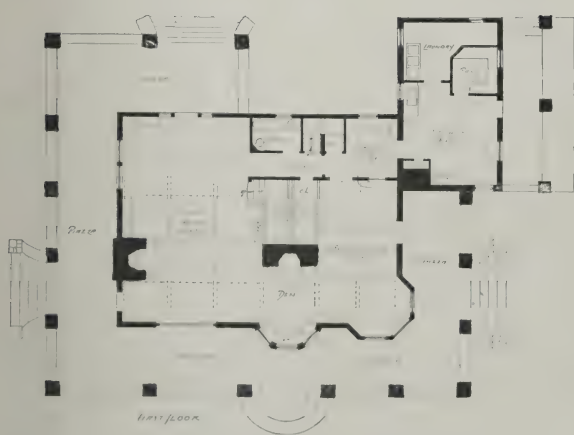


THE STABLE.

"KILDYSART," THE COUNTRY SEAT OF DANIEL O'DAY, ESQ., DEAL BEACH, N. J.—See page 3.

MR. G. K. THOMPSON, ARCHITECT.

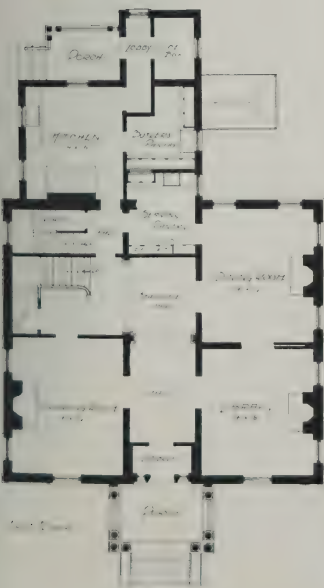




A RESIDENCE AT PROUTS NECK, MAINE.—See page 17.

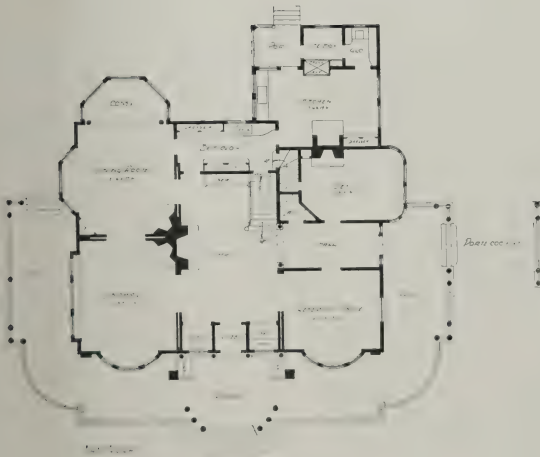
MR. JOHN CALVIN STEVENS, ARCHITECT.





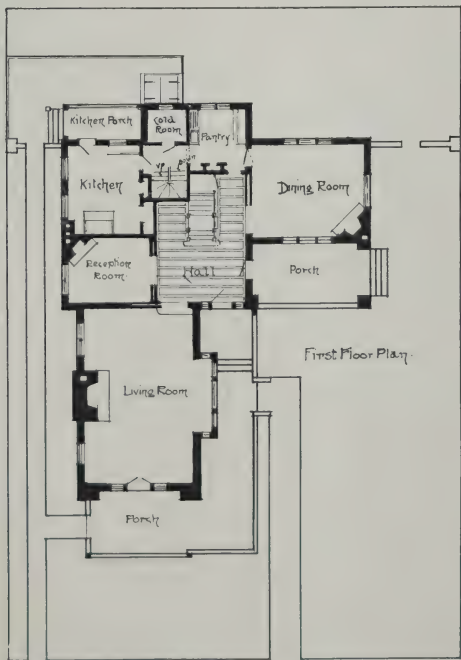
RESIDENCE OF PEREZ B. BURNHAM, ESQ., AT PORTLAND, ME.—See page 19.  
MR. GEORGE BURNHAM, ARCHITECT.





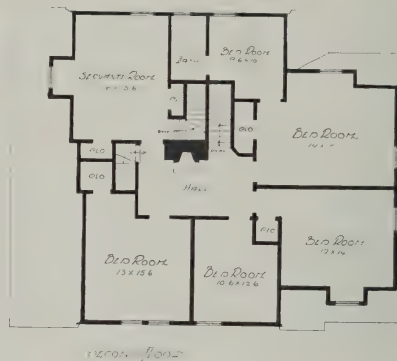
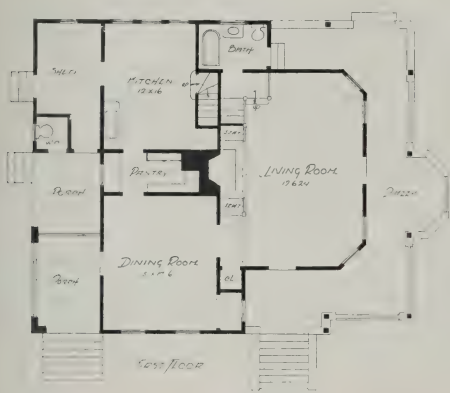
RESIDENCE OF C. C. WEST, ESQ., AT MONTCLAIR, N. J.—See page 18.  
MR. E. R. NORTH, ARCHITECT.





RESIDENCE OF FRANCIS D. BENNETT, ESQ., AT JERSEY CITY, N. J.—See page 16.  
MR. WILSON EYRE, ARCHITECT.





"EDGECOMBE," THE SUMMER HOME OF DR. FRANKLIN B. STEPHENSON, PROUTS NECK, MAINE.—See page 18.





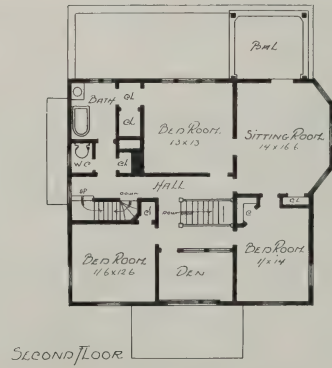
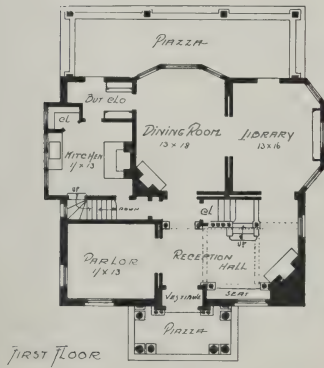
LIVING-ROOM.



LIVING-ROOM, SHOWING STAIRCASE AND DINING-ROOM.

"EDGECOMBE," THE SUMMER HOME OF DR. FRANKLIN B. STEPHENSON, PROUTS NECK, MAINE.—See page 18.





A RESIDENCE AT NEWARK, N. J.—See page 16.

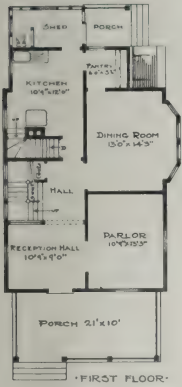
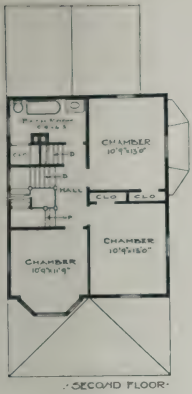




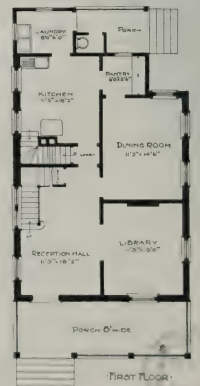
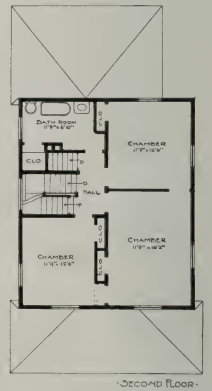
RESIDENCE OF EDWARD BOK, ESQ., AT MERION, PA.—See page 17.

MR. WILLIAM L. PRICE, ARCHITECT.





A HOUSE AT GLENSIDE, PA.—See page 20.  
MR. C. E. SCHERMERHORN, ARCHITECT.

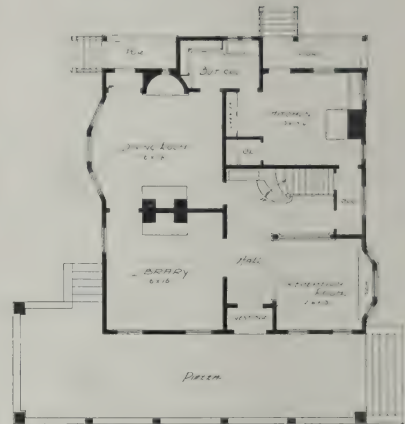


A HOUSE AT BALA, PA.—See page 19.  
MR. WILLIAM D. JONES, ARCHITECT.





Second Floor



First Floor



RESIDENCE OF HARRIS PARKER, ESQ., AT ROCHELLE PARK, NEW ROCHELLE, N. Y.—See page 20.  
MR. GEORGE KRAMER THOMPSON, ARCHITECT.



**"KILDYSART," THE COUNTRY SEAT OF DANIEL O'DAY, ESQ., DEAL BEACH, N. J.**

(Continued from page 15)

spans. It is built of red brick with wide white mortar joints with projecting courses. The evergreen shrubbery at the approaches of the bridge is continued along the main drive by an avenue of linden trees and privet balls. At every fifty feet between the latter are the road lights, placed low, and in the shrubbery, yet affording a perfect illumination of the roadway. The lights are placed in milk white glass balls set on brick and terra cotta bases, which come below the level of the eye. They constitute a characteristic feature of the grounds, and when lighted at night produce a very beautiful and most unique effect.

The stable, which is placed at one corner of the grounds and is heavily screened from the house by plants, is a charming structure about a hundred feet by a hundred and twenty-five. It is U shaped, with the stable yard and shed in the center and the coachmen's house in one wing. The building contains ten

color, and the sash and frames are painted white. The roof is covered with split cypress shingles, and is stained a dull green. The chimneys are topped out with terra cotta flue pots.

The interior plan is excellently arranged. It has a hall trimmed with quartered oak. The staircase, of handsome design, is provided with a broad landing, over which there are clusters of leaded glass windows. The ceiling is beamed, forming panels.

The reception-room is trimmed with white pine and is treated with old ivory white. It has a low Colonial wainscoting and a wooden cornice. The open fireplace is furnished with facings of Sienna marble, and a mantel of excellent design in the pure Colonial style.

The living-room is two steps down from the hall, giving it extra ceiling height, on account of its size. The ceiling is open timbered, with carved beam brackets under each timber, and paneled wainscoting and bookcases. The open fireplace is built of clinker brick, with facing of the same, above which there

**A RESIDENCE AT NEWARK, N. J.**

THE residence which is illustrated on page 12 has been erected for Dr. F. Edsall Riley, on Mount Prospect Avenue, Newark, N. J. The house is located on the side of a hill, and is so arranged that the principal rooms face the rear, from which an extensive view is obtained. The foundation, underpinning, and chimneys are built of hard burned Jersey brick, faced with Hackensack brick laid in red mortar. The exterior framework is sheathed with rabbeted boards, and these covered with heavy building paper. The first story to the height of window heads is veneered with Hackensack brick laid in red mortar, the same as underpinning, and anchored to the sheathing with heavy iron anchors. The window sills and trimmings are of dressed Indiana limestone. The remainder of the building is covered on the exterior with shingles, which are stained a brown color, while the trimmings are painted white. The roof is covered with shingles and is stained in harmony. Dimensions: Front, 37 ft.; side, 34 ft., exclusive of piazza. Height of cell-



THE ENTRANCE AND BAY WINDOW TO THE RESIDENCE OF FRANCIS D. BENNETT, ESQ., JERSEY CITY, N. J.

stalls, large carriage rooms, harness rooms, wash rooms, tool rooms, automobile rooms, and an office for Mr. O'Day. In addition there are bedrooms for the men and a special dining-room and kitchen for their exclusive use. The stable has been designed in the style of the house, and is a thoroughly successful building.

**RESIDENCE OF FRANCIS D. BENNETT, ESQ., AT JERSEY CITY, N. J.**

THE illustrations on page 9 and above present the residence of Francis D. Bennett, Esq., on Gifford Avenue, Jersey City, N. J. The building is admirably arranged for a suburban house, and the main body of the house is planned parallel with the front street, and slightly nearer to one of the party line. The tradesmen's path is on this same side of lot, and the wing containing living-room is also placed at the side, giving a wide open space in the lot on which the principal room and porches face. The house is treated in the domestic English style, and is most artistic in its design. The balustrade and terrace and part of the first story are built of clinker brick with rough faces. The remainder of the building is covered with rough plaster cast. The woodwork is stained a dark soft brown

is placed a massive wooden shelf. Opposite the fireplace there is an attractive bay window with leaded glass panes.

The dining-room is also trimmed with oak, and it has a paneled wainscoting, an ornamental paneled ceiling in plaster, and an open fireplace furnished with a green tiled hearth and facings and a mantel of emblematic design. The butler's pantry is fitted up with drawers, dresser, bowl, etc., complete. The kitchen is furnished with all the best modern conveniences, and it also has a glazed brick chimney hearth, a French range and hood, and a cold storage room.

The second floor contains a hall trimmed with oak, and a sitting-room treated in forest green, and four bedrooms treated with ivory white enamel. The sitting-room has a bay window with seat, and an open fireplace. The bathroom has a tiled floor and wainscoting, and the walls above the wainscoting and the trim are painted with white enamel. This bathroom is furnished with porcelain fixtures and exposed nickel-plated plumbing.

The third floor contains one bedroom and a trunk room. The cellar, cemented, contains a laundry, steam heating apparatus, etc. Mr. Wilson Eyre, architect, 929 Chestnut Street, Philadelphia, Pa.

ings: Cellar, 9 ft.; first story, 10 ft.; second, 9 ft.; third, 8 ft. 6 in.

The front entrance vestibule has a tiled floor with a Grecian border and a paneled wall painted with ivory white. The doors opening from the vestibule to the hall have elliptical shape headlights, same as the outside doors, and are glazed with clear leaded glass in Colonial designs.

The entrance hall is trimmed with whitewood, treated with old ivory white. It contains the main staircase, with balusters of four inch square fluted Doric columns, and occupies the space between the string and the ceiling rib. The balustrade at the foot of the stairs is a paneled bulkhead, matching the paneling under the stairs. The newels and rail are of birch stained mahogany. This contains also an ornamental nook, a window seat, and an open fireplace, which is six feet wide and seven feet high, and it has a hobbled fireplace opening and recessed shelf in part over the same. This fireplace is built of brown colored pressed brick, with hearth of unglazed buff color tile.

The entrance to the dining-room is under the main stairs, opposite the front door, and is flanked on either side with eight inch fluted Doric columns, set on top of a two-foot base, which extends around the hall, and



which forms a very attractive feature. On the side of the hall opposite the stairs there is an angle nook, which is framed in with fluted Doric columns and pilasters, and it has a paneled seat and back of birch stained mahogany. The walls and ceilings of nook, and the walls of the entire hall, are formed into panels with white painted strips, and cornice at the line of heads of doors extends around the hall, with medallions in the parts that come over the mantel. The ceiling is heavily beamed and ribbed.

The parlor is treated in the Empire style, and it has a cove ceiling, and is decorated with relief and fresco work. The library is trimmed with whitewood, and is painted ivory white. Under the ornamental window on the outside there is built a bookcase with birch doors stained mahogany. The dining-room is trimmed with quartered oak stained a very dark antique color. There is a paneled base which extends around the room, and a wooden cornice. The fireplace is a combination mantel and china closet, with tiled facings. The butler's pantry contains cupboards, with shelves,

posts, with stone footings, and it is so well elevated at the rear that a door opens into the space underneath the building and forms a cellar for storage, etc. The building from grade to the peak is of wood, and the exterior framework is covered with matched sheathing, and then cedar shingles, which are left to weather finish. The roof is also covered with similar shingles. The trimmings are painted white and the blinds light yellow. Dimensions: Front, 41 ft.; side, 38 ft. 10 in., exclusive of piazza. Height of the ceilings: Cellar, 6 ft.; first story, 9 ft.; second, 8 ft.; third, 8 ft.

The living-room occupies the entire length of the house, and is provided with an angle nook, containing an open fireplace built of brick, with facings and a hearth of the same, and a mantel shelf. The stairway, of attractive character, rises out of this room and extends up to the second story. This room, and also the dining-room, is wainscoted from the floor to the ceiling, the latter having beams, which are dressed and exposed to view. The butler's pantry is fitted up

piazza. Height of ceilings: Cellar, 8 ft.; first story, 10 ft.; second, 9 ft.; third, 8 ft.

The hall is a large central one, trimmed with white pine, finished with old ivory white and treated in the Colonial style. It has Colonial staircase of quaint design, with painted balusters and a mahogany rail. A lavatory and a coat closet are provided underneath the staircase.

The living-room is trimmed with quartered oak, and has a paneled wainscoting, bookcases built, and a massive beamed ceiling. The alcove, containing an open fireplace, with seats on either side, is an attractive feature. The fireplace is built of brick, and the facings and hearth are of the same.

The dining and smoking rooms are also trimmed with oak, and they have batten wainscotings with burlap panels. The smoking-room is separated from the dining-room by an archway, which is paneled, and it has a paneled seat, over which there are a cluster of small windows. The fireplace is built of brick, with facings and a hearth of old Delft tile brought



VERANDA OF THE SUMMER HOUSE OF CHARLES CUDAHY, ESQ., THOUSAND ISLANDS, CANADA.—See page 19.

drawers, butler's bowl, and a refrigerator. The kitchen is conveniently arranged with coal bins, gas and coal range, porcelain sink, and the best modern conveniences. In the ceiling of kitchen is placed an 18-inch ventilator in connection with a large vent shaft, which is also connected to the bathroom and water closet in the second story to the outer air. The woodwork in the butler's pantry and in the kitchen is of cypress, and finished natural.

The second floor contains five bedrooms, provided with ample closets, linen closet, and a bathroom, the latter having a tiled wainscoting five feet high, a tiled floor, and porcelain fixtures with exposed nickelplated plumbing. The trim on this floor is painted white, with doors of mahogany finish. The third floor has good sized servant quarters.

#### A RESIDENCE AT PROUTS NECK, MAINE.

THE residence illustrated on page 6 has been built for Winslow Homer, Esq., the painter, at Prouts Neck, Maine. The house is built for summer uses, and is constructed in a simple manner. There is no stone cellar under the house, but the building rests on cedar

posts, with stone footings, and it is so well elevated at the rear that a door opens into the space underneath the building and forms a cellar for storage, etc. The building from grade to the peak is of wood, and the exterior framework is covered with matched sheathing, and then cedar shingles, which are left to weather finish. The roof is also covered with similar shingles. The trimmings are painted white and the blinds light yellow. Dimensions: Front, 41 ft.; side, 38 ft. 10 in., exclusive of piazza. Height of the ceilings: Cellar, 6 ft.; first story, 9 ft.; second, 8 ft.; third, 8 ft.

The living-room occupies the entire length of the house, and is provided with an angle nook, containing an open fireplace built of brick, with facings and a hearth of the same, and a mantel shelf. The stairway, of attractive character, rises out of this room and extends up to the second story. This room, and also the dining-room, is wainscoted from the floor to the ceiling, the latter having beams, which are dressed and exposed to view. The butler's pantry is fitted up

#### RESIDENCE OF EDWARD BOK, ESQ., AT MERION, PA.

The illustrations shown on page 13 present the residence of Edward Bok, Esq., at Merion, Pa. The building is treated in the English style, and is constructed of stone and half-timber work. The walls to the terrace and the first story are constructed of rock-faced Foxcroft stone. The remainder of the building is of beamed work with plaster panels. The half-timber work and all the trimmings are stained a soft brown color, while the plaster panels are gray. The roof is covered with shingles. Dimensions: Front, 76 ft. 7 in.; side, 71 ft. 11 in., exclusive of terrace and

from Holland, and a mantel. The butler's pantry is fitted with drawers, shelves, dressers, bowl, etc. The kitchen and servants' hall are trimmed with chestnut, finished natural, and each room is fitted with all the best modern conveniences. The kitchen range is built in an alcove furnished with a slate hearth and a glazed brick wainscoting. The ice box and refrigerator are built in, with an outside entrance.

The second floor is trimmed with white pine and treated with white enamel. The hall is semicircular in form, and the several bedrooms on this floor are fitted up in an attractive manner with tiled facings and hearth and mantels. This floor contains three bedrooms, boudoir, day and night nurseries, nurses' room, and five bathrooms. The latter are wainscoted and paved with white enamel tile, and furnished with porcelain fixtures and exposed nickelplated plumbing.

The third floor contains a large, well-fitted work-room and the servants' quarters. The cellar contains the laundry, cold storage, and the heating apparatus. Mr. William L. Price, architect, 1604 Walnut Street, Philadelphia, Pa.





## VACATION HOUSEKEEPING.

IN vacation housekeeping, remarks Good Housekeeping, bear in mind that there is no place like home, even if it is a temporary one. To keep house for even a month or two is many times better for comfort, for rest, for health, for pure enjoyment, than any hotel can possibly be. In one's own house, even if it be hired, one has control over all those matters of health and comfort which in a boarding house must be left to others. And as for a really wholesome life for children, it can never be obtained at a hotel. There is only one drawback to summer housekeeping, and that is that the housewife has no rest from her cares. The change which her family has she shares only in part. Yet it is often a question which many a woman decides in the affirmative, whether the strenuousness of dress, the social demands, and the annoyance of the gossip of a large hotel, are not greater burdens than country housekeeping. In summer, too, the food, milk, and water supply are all important, and it is difficult to be sure of them in a large hotel. Fresh milk, fruits, and vegetables are a common necessity, but as the hotels draw their supplies from distant city markets, one can usually be certain that at a hotel these things are from twelve to forty-eight hours older than could have been obtained in one's city apartments; but, after all, people who go to a summer hotel do not go for their children, or for their health, and probably have no use for hints on hygiene. The smaller and more isolated hotels and country boarding houses are better, because there one can throw off more of city life, be outdoors more, and become better acquainted with the character of the well, the cow, and the cook.

## NEW RUSH FURNITURE.

VOGUE gives descriptions of several novelties in rush furniture for the summer cottage. A comfortable-looking divan is of good width and long, stained in forest green. Only the framework is rush, for the entire body is upholstered, fitted with springs, and covered with green tapestry. A high headpiece gives a rest for a long cushion covered with the same material. Backing this and made in one with the couch is a three-shelved bookcase. The top reaches the level of the headpiece and affords a convenient shelf for an electric standard or lamp. A very attractive desk is rather larger than the customary woman's writing desk. The wide writing shelf is bordered by a high back that tapers down at the sides; two long flaps of wicker extend from one end to the other and give plenty of room for paper, envelopes, etc. Under the desk is a shelf for odds and ends, and a convenient scrap-basket is attached at the side. Many unusual and decorative pieces of furniture can be made of rush, and for a country home nothing could be more appropriate or pretty.

## THE POLISHED FLOOR.

A LITTLE beeswax melted in turpentine, says a contemporary, is as good a floor polish as any of the elaborate mixtures often recommended. Only a little should be applied at a time. The great mistake that servants make is in putting on too much liquid at once, thereby making the surface dull, smeary, and sticky, and often rendering the floor so unsightly that the professional floor polisher has to be called in to put it in condition again.

The rubbing should be done with a soft cloth and a small surface treated at a time. Apply the polish with the cloth and then rub quickly and lightly until dry. The entire secret of keeping a floor in good condition is to do the cleaning regularly, and to watch for daily stains and to remove them at once. If the floor is attended to systematically, there will be no need of giving it any but the lightest and gentlest kind of treatment, which is the right kind of treatment to keep it in good condition.

## THE TEA CART.

THE tea cart, which has succeeded in installing itself in the good graces of the community, has added to its family a cellarette wagon. The cellarette wagon, closed, looks very much like a genteel laundry cart. By simultaneously raising two lids, which close over the top of the cart, a full outfit of liquor and tobacco furnishings in cut glass rises to view, while the lids become leaves at each side to hold glasses and other paraphernalia. It is made of oak.

A cart for afternoon tea also has a sink into which the furnishings are let down by the closing of side leaves over the top.

## "EDGECOMBE," THE SUMMER HOME OF DR. FRANKLIN B. STEPHENSON, AT PROUTS NECK, MAINE.

ON pages 10 and 11 will be found illustrations of Edgcombe, the summer home of Dr. Franklin B. Stephenson, A.M., M.D., of the United States Navy, at Prouts Neck, Maine. The site upon which the house is situated is one typical to the coast of Maine, and the house is designed and built in keeping with its surroundings, with its field stone balustrade and columns and the first story of the same, and the second story finished into a gambrel roof. This second story is covered on the exterior with shingles and is stained with shingle stain of a dark green color, while the trimmings are painted ivory white. The roof is also covered with shingles, and is stained in harmony. The triple dormer windows, overhanging as they do, form the principal characteristic of the exterior. Dimensions: Front, 66 ft.; side, 54 ft., exclusive of piazza. Height of ceilings: Cellar, 7 ft.; first story, 10 ft.; second, 9 ft.; third, 8 ft.

The interior throughout is trimmed with yellow pine, finished natural. The living and dining rooms and den, which are practically one great room, have a high battened wainscoting, finished with a plate rack and a beamed ceiling. The plaster, which is shown to view, is of rough cast, and is tinted in harmony. The large open fireplaces are built of field stone, laid up at random, with hearths of red brick. There are numerous seats and bookcases built in, and an open staircase built in an attractive manner. The butler's pantry is fitted with drawers, dressers, and sink, and the kitchen and laundry are well fitted with all the best modern conveniences. There is a bathroom on the first floor, which is fitted up with all the necessary conveniences.

The second floor is treated with ivory white paint, and all the rooms are provided with a three-foot wainscoting. This floor contains a large open hall, a sitting-room, six bedrooms, linen closet, large clothes closets, and two bathrooms, the latter furnished with porcelain fixtures and exposed nickelplated plumbing. The open fireplaces, which are shown on the plan, are built of brick, with the facings and a hearth of the same and a mantel.

The third floor contains one room and ample storage space. The house was built from the instructions of Mrs. Stephenson, and by Mr. Alonzo L. Gorgius, a builder of Prouts Neck, Maine.

## RESIDENCE OF C. C. WEST, ESQ., AT MONTCLAIR, N. J.

ON page 8 will be found an illustration of the residence of C. C. West, Esq., at Montclair, N. J. The building is designed in the Colonial style of architecture. The underpinning is built of cut red sandstone. The superstructure is covered on the framework with matched sheathing and then good building paper; this building paper is covered with clapboards, and the whole is painted white. The roof is covered with shingles and is stained a moss green. Dimensions: Front, 55 ft.; side, 52 ft., exclusive of piazza. Height of ceilings: Cellar, 8 ft.; first story, 10 ft.; second, 9 ft.; third, 8 ft.

The house is planned with a central hall and a front entrance through the vestibule, while the lateral hallway forms an entrance from the porte-cochère. The hall is trimmed with quartered oak, and it has a paneled wainscoting and a beamed ceiling. It also has a vestibule with an alcove on either side provided with paneled seats, over which there are stained glass windows. The staircase is of a very handsome design, with an archway effect on the staircase platform from the lower hall. The fireplace has tiled facings and a hearth and a massive mantel of oak.

The reception-room is trimmed with pine, and is treated with white enamel. The library is trimmed with cherry, and it has an alcove with bookcases built in, over which there are windows of delicate tinted glass. The fireplace is furnished with tiled facings and hearth and a mantel of cherry. The den is conveniently situated at the porte-cochère entrance, and it is trimmed with curly birch, and has an open fireplace.

The dining-room is trimmed with oak, and it has a paneled wainscoting, beamed ceiling, bay window, and an open fireplace. The conservatory at the rear of dining-room is an attractive feature, and it is separated by an archway supported on columns. The butler's pantry is trimmed with cypress, and it has a bowl, dresser, and drawers, etc. The kitchen and its dependencies are trimmed with cypress, and each is fitted with all the best modern conveniences.

The second floor contains a large open hall, four bedrooms, and two bathrooms, the latter provided with a tiled wainscoting and floor and porcelain fixtures and exposed nickelplated plumbing. The third floor contains three bedrooms and a bathroom, besides a trunk room and a storage room. The cellar, cemented, contains a laundry, furnace room, fuel rooms, and cold storage. Mr. E. R. North, architect, 220 Broadway, New York City.



## AN ENGLISH TREE LIFTING MACHINE.

THE transportation of large trees is now so frequently a necessary part of the making of large estates that the problems involved in their conveyance include few difficulties. Work of this nature is more common in America than abroad, for in this country large estates are often made by order, if not overnight, yet in so short a time that our wealthy men are not willing to wait until trees grow to a considerable height, but must have them full grown at once. A machine for transporting large trees was recently used in St. James' Park, London, which was expressly constructed for this occasion.

It consists of a strong steel carriage on four wheels, of which the front and sides are the principal features, the back being a movable structure, and only fixed after the tree is slung, to give rigidity to the machine when traveling. There is no body or back axle, a bifurcated support on either side, in which the wheels are fixed, taking the place of the back axle. Thus, when the machine is backed over the tree to be removed, there is nothing to impede it, or prevent its being so stationed that the tree is in the center of the carriage. Running along on either side is a strong winlass or winch, to which chains are attached. The tree having been prepared for removal by digging a suitable trench around it, and leaving sufficient soil to form a good ball round the roots, is undermined to enable two stout boards to be placed beneath it. Next, boards on either side of these center ones are placed in position, which completes a platform on which the tree with its soil is now standing. The machine is next brought over the hole on strong planks, which are laid in a gage the width of the wheels apart. The whole can now be raised by means of the chains and winlasses, and is suspended in the center of the vehicle. It can now be carted to any desired position in the grounds. The operation is repeated of placing the planks over the hole for the wheels, and additional ones in the center for the horses. As soon as the machine is in position these center boards are removed, leaving the tree suspended over its new situation. It is a simple matter to lower the tree and draw out the planks from beneath.

## THE PEONY.

By the time these words are in type the peony season will be practically over. It may not be amiss, however, to direct attention to this beautiful flower, which is now enjoying a new and well deserved popularity.

The sort of garden in which this flower occurred, says a contemporary, is called the grandmother's garden by florists; and the "pincy" of the grandmother's garden was the result of a lively interest which sprang up in the peony among the florists of Massachusetts about fifty years ago. That interest succeeded in placing the red and the white peony in every village garden.

Then it slackened, and the peony remained a village flower from that day up to half a dozen years ago. Curiously enough, the new revival hailed from the West, where interest in the peony seems to have hibernated through a long period of neglect.

Hybridization has been going on apace. New varieties have been developed with rapidity, and every man has named his own just as it suited him, so that to-day there is an astonishing abundance and variety of nomenclature in the peony cult.

In a flower running the scale of shades from pure white to ruby red, with an occasional tinge of yellow and lavender, with mixtures of all these hues, and with all manner of differences in form and size, the possibilities of variations are almost infinite.

Another result for the mania for peony culture has been to develop a delicate fragrance in the blossom, in place of the slightly disagreeable odor of the old time flower.

One reason for the long continued, widespread interest in the peony is the fact of its adaptation to the widest area of almost any flower in America. There is not a State in the Union in which it will not flourish, and it can be cultivated as well in the simplest as in the most elaborate garden. It grows quickly, blossoms freely, has a great, tangled root mass which prevents winter killing, and its foliage is ornamental after the blossoming period is over.

But a more subtle reason exists for its progress as the flower of fashion. The peony was born to be the flower of plutocracy. The peony is a true democrat, too, in spite of its penchant for magnificence, for it will grow in any known soil. But—suburbanites, take notice—it does best in a rich, heavy soil, moist, well drained and abundantly fertilized.



## Fire Protection

### FIREPROOF FLOORS.

In designing fireproof floors, remarks a recent authority, one of the most important points to be determined is the scantlings of the joists to be employed and the distances center to center. Modern practice inclines to the spacing of the girders at very short intervals, say, 18 inches to 24 inches. This method may be advantageous with very small spans, but with any considerable span it involves either extravagance or insecurity. It is necessary, in order to secure adequate rigidity and to guard against deflection, that the relation between the span and the depth of the joist should have some minimum ratio. According to some of the best authorities, the depth of a steel joist should not be less than one-twentieth of the span, and due allowance must be made for all holes drilled in the joists, especially if they be in the flanges. This ratio is not necessarily dependent on the load to be supported, but relates mainly to the span. It is evident, therefore, that as the girders must be of considerable weight to secure this proportion, and as girders of such scantlings are capable of carrying very substantial loads, it is not economical to place them very close together. On the contrary, the object should be to space them as widely apart as possible consistent with keeping the load within the factor of safety. This factor of safety must depend upon the nature of the load to be carried. For permanent dead loads not liable to variation, a factor of 3 is sufficient, if the steel will bear a tensile strain of 30 tons per square inch, with a moderate elongation, say, 20 per cent. in a maximum length of 8 inches. Then the maximum safe load not liable to variation would involve a tensile strain of 10 tons per square inch. For ordinary live loads applied gradually, the factor of safety would be 4, and the safe load would produce a strain of  $7\frac{1}{2}$  tons per square inch. For live loads rapidly applied, the factor should be 5, and the maximum strain should not exceed 6 tons per square inch. If the floor is to be a real fire-resisting floor, the girders must be completely encased in the fire-resisting material.

To keep within safe limits, it is not wise to assume that for dwellings or office buildings the combined dead and live loads will be less than about 154 pounds per foot. The average dead load of a fireproof floor made of steel joists and 6 inches of coke breeze-concrete for moderate spans may be taken as 70 pounds per foot, and the live load may be put down at 84 pounds, giving a total load of 154 pounds. In public buildings or in schools where large numbers of persons may congregate, or in warehouses where heavy loads are stored, the total loads to be provided for will be much greater.

### NON-INFLAMMABLE WOOD.

WHATEVER be the chemicals for incorporation in solution into the interstices of the wood, says an English expert, care must be taken to see that the aqueous part has all been evaporated before the wood is painted. If the woodworker paints the wood while it still contains internal moisture, nothing is more certain than the fact that such internal moisture will work out and peel off the paint. If the wood were impregnated with water, and only water, and painted before such water had entirely evaporated from the interior of the wood, the same result would accrue—the interior moisture would come out and peel off the paint. This was the trouble, and the whole trouble, with the non-inflammable wood in the royal yacht, about which so much has been heard within the past few years. When the treated wood was sent to the shipbuilders, they were notified in writing to make sure the wood was thoroughly dry before it was painted and finished, and it was explained to them that if the treated wood contained internal moisture when primed such moisture would work out and peel off the paint or other coating, and possibly set up more or less corrosion of the nails. The shipbuilders were advised to do as the American shipbuilder does, namely, put non-inflammable wood for twenty-four hours in a small kiln before being finished to make sure that the interior moisture had all been evaporated. Some of them complied with these requirements, but others failed to do so, and, consequently, a portion of the wood was painted when it contained internal moisture. Woodworkers, as a rule, are not enthusiastic about the non-inflammability of wood, and do not welcome the little extra trouble required in order to properly work it. The Admiralty, in 1899, finding a portion of the paint on the non-inflammable wood in the royal yacht in an unsatisfactory condition, made complaints, with the result that the internal moisture was dried out and the Admiralty workmen then painted the wood.

### RESIDENCE OF PEREZ B. BURNHAM, ESQ., AT PORTLAND, MAINE.

THE illustrations shown on page 7 present the residence of Perez B. Burnham, Esq., which has been erected on the Western Promenade, at Portland, Maine. The building, square in form, is built of red brick, laid in Flemish bond, with Indiana limestone trimmings, and the woodwork is very well detailed, and the whole is painted white. The severity of the design is relieved by the ornamental porch and balustrade which surrounds the roof. Dimensions: Front, 45 ft. 9 in.; side, 67 ft. 8 in., exclusive of porch. Height of ceilings: Cellar, 7 ft.; first story, 11 ft.; second, 10 ft.; third, 9 ft.

The interior throughout is trimmed with white-wood, treated with china white enamel paint. The hall is a central one, reached through a vestibule with a paneled wainscoting, wooden cornice, and a tiled floor. An archway with a pilaster effect separates the entrance hall from the staircase hall, and the latter contains an ornamental staircase with white enameled risers and balusters, oak treads, and mahogany rail and newel posts. A lavatory beneath the stairway is conveniently located.

The drawing-room has a low Colonial wainscoting and an open fireplace with tiled facings and a hearth, and mantel made from a special design. The library and dining-room are treated similarly, and each has an open fireplace. The principal rooms on the first floor have floors of polished quartered oak. Unusual attention has been given to the butler's and serving pantries, and each is furnished with many cupboards, dressers, sink, etc., complete. These pantries and kitchen are trimmed with brown ash, and the floors are of spruce. The kitchen is fitted with all the best modern conveniences, and the chimney breast is faced with glazed enameled brick. The lobby is well placed, and the ice box is of large dimensions.

The second floor is treated with china white enamel, and it contains three bedrooms, fitted with large closets, and two bathrooms, besides two servant bedrooms and bath, which are placed over the kitchen extension, and are reached by a private hall and stairway, and also from the second floor of the main house. The bathrooms have tiled wainscotings and floors and porcelain fixtures with exposed nickel-plated plumbing.

The billiard-room is trimmed with cypress, stained forest green, and the smoking-room is treated the same, with a fireplace with red brick hearth and facings and mantel. This floor also contains two guest rooms, bathroom, and a trunk room. A cemented cellar contains a furnace, laundry, fuel rooms, cold storage, etc. Mr. George Burnham, architect, 120 Exchange Street, Portland, Maine.

### A HOUSE AT BALA, PA.

ON page 14 will be found an illustration of a house at Bala, Pa. The underpinning is built of rock-faced stone, and the first story is constructed of dark, rough, hard brick, laid in Flemish bond. The second story is of wood, with the exterior covered with shingles and stained a seal brown. The roof is covered with shingles, and is stained a moss green. The trimmings are painted white. Dimensions: Front, 25 ft.; side, 42 ft., exclusive of piazza. Height of ceilings: Cellar, 7 ft.; first story, 9 ft.; second, 8 ft.; third, 8 ft.

The entrance is into a reception-hall, which is trimmed with chestnut, finished with antique brown waxed finish. It contains an ornamental staircase turned out of similar wood. The library is trimmed with oak, and has a chimney breast with oak mantel. The dining-room is trimmed with Antwerp gray oak. The butler's pantry, kitchen, and laundry are trimmed with chestnut, and are finished natural. Each apartment is fitted up with all the necessary conveniences.

The second floor is trimmed with chestnut and finished with antique brown, and it contains three large bedrooms and a bathroom, furnished with porcelain fixtures and exposed nickel-plated plumbing. There are two bedrooms and trunk room on the third floor. The cellar, cemented, contains a furnace, fuel rooms, etc. Cost \$3,200 complete. Mr. C. E. Schermerhorn, architect, 430 Walnut Street, Philadelphia, Pa.

The cellar, a basement, contains hall, laundry, billiard-room, man's room, cold room, heating apparatus, etc. The cellar hall is so arranged that it connects with the main hall in first story in a convenient manner for using the billiard-room without going through the kitchen or servant quarters. The building is heated with steam and is provided with electric light. Mr. William D. Jones, architect, 245 Broadway, New York City, N. Y.

### MR. CUDAHY'S VERANDA.

THE veranda of Charles Cudahy, Esq., at Thousand Islands, Canada, illustrated on page 17, is one of those charming, homelike, expansive verandas which are now so frequently built and which add so much to the pleasures of country living.

## New Books

### A HANDBOOK ON ORIENTAL RUGS.

HOW TO KNOW ORIENTAL RUGS: A HANDBOOK. By Mary Beach Langton. New York: D. Appleton & Co., 1904. Pp. 244. Price, \$2.00 net.

Several sumptuous recent books on Oriental rugs have prepared the way for this more modest volume, which has been published at a price so reasonable that no rug lover will hesitate to add it to his library. It is beautifully illustrated with photographs of rugs to the number of twenty, of which twelve are in color and very well done. The book, however, hardly approaches the value of a handbook in its text, which is not only deficient in information, but which contains not a few inaccuracies. To those, however, who have not made rugs a scientific study, it will be found of considerable help in exciting interest in rugs, in explaining the distinguishing characteristics of many of the chief makes, and in broadening one's knowledge of rugs in general.

The author's purpose, as explained in an introduction by Joseph F. Langton, has been the eminently practical one of telling her readers how to know Oriental rugs. The book is largely descriptive for this reason. A survey of the entire field is followed by chapters describing the various classes of rugs. Each is placed in its proper geographical environment as to the country where it is produced, and the manners and customs of the makers are set forth. The peculiarities of patterns, colors, materials, and workmanship are explained in detail.

There are four qualities, points out Mr. Langton, which commend Oriental rugs. First is durability. The life of the average domestic carpet may be reckoned by a few years, while that of the Oriental product can be measured by decades or generations. Second, should be named their artistic beauty of design and coloring. The Oriental workman knows how to combine colors. In a general way other makers are only imitators who reproduce designs found in the East. In the third place, we secure through them economy in furnishing. While the outlay at first is undoubtedly large, yet, in view of the wearing qualities of rugs, owners possess something which has real, permanent value. Fourth, may be named the sanitary conditions which attend their use. Housecleaning with rugs on the floor ceases to be altogether a terror. Indeed, housekeeping in general through them is simplified and placed under better hygienic conditions.

This is a very fair statement of the value of the Oriental rug in the modern house. All told, however, the most convincing argument for their use is their wonderful beauty and exquisite harmony of colors. The beautiful illustrations which accompany this book are quite convincing and sufficient testimony on this point, should any be needed.

### EASY LESSONS IN ARCHITECTURE.

EASY LESSONS; OR, THE STEPPING STONE TO ARCHITECTURE. By Thomas Mitchell. Second edition. New York: The Industrial Publication Co., 1904. Pp. 92. Price, 50 cents.

It is impossible to summarize the history or meaning of architecture within the narrow scope of a volume so small as this, which is a reissue of an English work; yet the elementary information here printed will doubtless be found valuable by those who may have need of slight architectural knowledge and not know where else to find it. The book is arranged in questions and answers, and its contents is, of course, limited to the briefest notes.

### LUMBER TABLES.

HANDY LUMBER TABLES. Containing board measure, plank measure, scantlings reduced to board measure, with other useful data and memoranda. New York: The Industrial Publication Co. 1903. Paper. Pp. 24. Price, 10 cents.

A handy little booklet of convenient tables, whose general scope is expressed in the title page.

NOTHING helps a room so much as color. Color is the dominant note in the interior. The shape of the room and the openings—windows and doors—are of the very greatest consequence in the general effect; but a good color scheme will thoroughly transmute a badly shaped and planned room into one of beauty, while a bad color scheme will as completely ruin it. A good color sense is essential in the proper decoration of a room, for a quite ordinary apartment may be made most attractive by a skillful use of color.





## Sanitation

### THE STERILIZATION OF WATER.

PROF. PATERNO, in a communication to an Italian academy, has suggested a process for the purification of water for private use. He has made numerous and extensive experiments looking toward that end, from the results of which he claims that, by adding to impure water, even that containing pathogenic microbes, an extremely small quantity of chloride of silver, there is accomplished the complete disinfection of the water. For this purpose two milligrams, or at the most two and one-half milligrams, of the chloride (a milligram equals .01543 of a grain avoirdupois) are sufficient to absolutely sterilize a liter of water and to eliminate every danger of infection. The process is simple, and may be used by any one and in every condition of life, the sterilization being complete after a few minutes—ten at the most—and no apparatus being necessary beyond a small vial with a solution of chloride of silver. The water keeps its flavor and all of its properties without modification, undergoing only a slight whitening, which disappears after a few hours of repose. Water purified by means of boiling, ozone, and all other processes known up to the present, when exposed to the air soon becomes impure, but Prof. Paterno's process is said to keep the water pure for many months.

### PROTECTION AGAINST GERMS.

Is the germ fear a craze or a reality? Undoubtedly the human race has existed for some time in happy but unconscious existence with germs, and without any special disturbance that any one was aware of. To-day, however, the germs abound in everything, and the nervous man or woman surrounds himself with all sorts of means of protection against the inroads of the dreaded creatures. A positive demand exists for germ proof materials and germ destroying devices. Silver water scoops are made in order to handle unsterilized coins. There are germicide doormats which, being stepped upon on the right spot, emit a spray of volatile fluid which sterilizes the disease germs collected on the shoes from the dust and mud of cities. There are wind vells for men and women, intended to be worn over the mouths and noses as preventives against the inhalation of germs. There are fumigating attachments for letter boxes which, being compressed, are guaranteed to sterilize the recipient's mail before he touches it. There are tubular baths for hallways, used for canes and umbrellas. There are generators that sterilize carpets, walls, clothing, books, etc. There are pocket lamps for sterilizing cups at public drinking fountains. There are antiseptic communion cups with rotating brushes that wash the cups' edges as they pass from one communicant to another.

### LIGHT AND SANITATION.

The importance of sunlight to health was touched on by Sir James Crichton Browne in a recent lecture. He showed how it gained access to and caused nutritive and tonic effects upon the whole system through the optic nerve, brain center, and spinal cord. The blind were almost invariably feebly anemic and prone to illness. It behooved all good sanitarians to spread the light, to conserve it and to protect it from pollution. Fresh air, pure water, good drainage, unadulterated food, and well-ventilated dwellings were cardinal sanitary requirements, and white light must be added to their number. Hitherto its claims had not been sufficiently recognized, or else so many encroachments upon it would not have been suffered. In former days there were restrictions upon it in the form of a window tax, and now big windows were of little avail if we allowed buildings to be so constructed that the light could not obtain access. A window should be so placed as not to be overshadowed, and that the sunlight during some part of the day could directly fall upon it. It is impossible, he added, to witness without anxiety the piling up of houses that was now going on story above story because lateral expansion had become too costly. We see artisans' dwellings, warehouses, shops, mills, and mansions adding cubits to their stature and depth to their shadows. There are streets in London that are like tunnels, courts like damp cellars, and rooms, even in fashionable quarters, that no gleam of sunshine has ever entered. It is little wonder that so many of the London children were of puny limbs, poor, thin blood, and flabby muscles. He pointed out how the sun was veiled by a canopy of soot and noxious vapor, which not only hung over the towns, but extended into the neighboring country, so that they could hardly pick a flower or blade of grass without soiling the fingers.

### A HOUSE AT GLENSIDE, PA.

THE house illustrated on page 14 has been erected at Glenside, Pa. The underpinning is built of rock-faced field stone laid up at random. The exterior framework is covered with matched sheathing, good building paper, and white cedar shingles, dipped in pearl gray stain. The roof is covered with shingles, and is stained a deep green. The trimmings are painted white. Dimensions: Front, 25 ft.; side, 40 ft., exclusive of piazza. Height of ceilings: Cellar, 7 ft.; first story, 9 ft.; second, 8 ft.; third, 8 ft.

The reception-hall, parlor, and dining-room are trimmed with red oak, with plainly detailed trim, and are stained and finished with a weathered oak effect. The reception-hall has a screened effect between the hall and stairway, the latter being of an ornamental character. The butler's pantry and the kitchen are trimmed with chestnut, and are furnished with all the best modern conveniences.

The second floor is trimmed with chestnut, and contains three bedrooms and a bathroom furnished with porcelain fixtures and exposed nickelplated plumbing. There are two bedrooms and a trunk room on the third floor. The cellar, cemented, contains a laundry, hot water heater, and fuel rooms. Cost, \$3,500 complete. Mr. C. E. Schermerhorn, architect, 430 Walnut Street, Philadelphia, Pa.

### RESIDENCE OF HARRIS PARKER, ESQ., AT ROCHELLE PARK, NEW ROCHELLE, N. Y.

THE illustrations shown on page 15 present the residence of Harris Parker, Esq., at Rochelle Park, New Rochelle, N. Y. The building is designed in an attractive manner, and it has many pleasing features, including the spacious piazza, with its brick enclosed terrace, and the numerous bay and dormer windows. The underpinning and the terrace to the piazza are built of clinker brick, laid with Flemish bond, and with black-headed bricks protruding at various intervals. The superstructure, of wood, is covered on the framework with matched sheathing, good building paper, and then shingles, which are painted white throughout, while the trimmings are painted dark bottle green. The blinds are also painted bottle green. The roof is covered with shingles and stained a moss green in good harmony and with pleasing effect. Dimensions: Front, 43 ft.; side, 42 ft., exclusive of piazza. Height of ceilings: Cellar, 7 ft.; first story, 10 ft.; second, 9 ft.; third, 8 ft.

The entrance to the house is through a vestibule into the hall, from which the various rooms are entered. At the rear of this hall there is a paneled seat, from the end of which the staircase, of ornamental character, rises to the second and third floors. The reception-room is separated from the hall by archways, supported on a column and pilasters of Colonial style, one of which is filled in with ornamental spindlework from the floor to the ceiling. This reception-room is treated with old ivory paint, and it has an attractive bay window and a paneled seat.

The library and dining-room are finished with open fireplaces trimmed with tiled facings, and hearths and mantels in harmony with the treatment of the rooms. The dining-room has a semicircular space in which an ornamental buffet is built, and at one side there is an arched alcove forming an entrance to the porch. The butler's pantry is fitted up with sink, drawers, cupboards, etc. The kitchen is furnished with a broad chimney breast, with slate hearth and range, a large store pantry, sink, dresser, etc., complete.

The second floor contains four bedrooms, nine closets, one of which is a linen closet, and a bathroom. The bedrooms are fitted up in a neat manner, two having tiled fireplaces. The bathroom is wainscoted and is furnished with porcelain fixtures and exposed nickel-plated plumbing.

The third floor contains the servant quarters and a trunk room. A cemented cellar contains a laundry, fuel bins, heating apparatus, etc. Mr. George Kramer Thompson, architect, 66 Broadway, New York.

### HOW WELLS ARE POLLUTED.

By a series of experiments which proved how readily deep wells and springs could experience pollution, the town of Quitman, Ga., has doubtless been saved from the danger of an epidemic of disease. In this place, says Harper's Weekly, the water supply of the town is derived from wells, and in planning a sewerage system it was proposed to dispose of the public sewage by discharging through a bore-hole into an underground stream. Two tons of salt were placed in the well where it was planned to empty the sewage, and the water from the various wells, which had been previously examined, especially as to their chlorine contents, was again analyzed, samples being taken at intervals during and some time after the experiment. It was found that the salt had permeated all of the wells in the town, demonstrating conclusively that disease germs could be readily communicated to the drinking water.



## Civic Betterment

### AN ENGLISH GARDEN CITY.

A GREAT deal of interest has been manifested in England in the last few years over proposals for civic betterment, for which the generic term, "The Garden City," has been used. A plan for a new city, laid out on the lines of the new movement, has been proposed near Letchworth, in Hertfordshire. It affords an interesting study in town planning.

For the central square of the town a level plateau has been chosen near the existing railroad station. From this plateau the ground slopes gently down on all sides, except toward Letchworth. The roads radiating from the central square, which will give ready access to all parts of the town, have been so planned that glimpses of the open country will be obtainable along them from the heart of the town, while they will afford good views of the central buildings to those approaching from the outskirts. Leading from the central square is the main avenue, on each side of which streets have been planned for heavy traffic or trucks; and on the island spaces thus left it is intended the main shops shall be built. The width of the roads will probably vary from 40 feet to 60 feet, with the exception of the main avenue, which will vary from 100 feet to 150 feet wide. During the earlier stages of development the roads will not be made the full width, but the directors will preserve ample space for future widening, and so avoid the necessity of repurchasing land for that purpose. The site for factories has been arranged adjacent to the railroad on the east side of the town, where there is a large area of level land, so that direct access to the railroad can be given to all factories that may require it. This area will be screened from the town by belts of trees, and the prevailing wind will carry the noise, dust, or any little smoke there may be away from the town. By planting the railroad banks and cuttings with trees and shrubs, it will be possible to greatly beautify the track through the town and considerably soften the noise of the trains.

The total area of the town as likely to be developed is, approximately, 1,200 acres, inclusive of Norton Common and roads, and to this has to be added the land which will be used for residential developments around Letchworth Park, namely, about 100 acres. Of the above total, about 110 acres are reserved for factories, railroad sidings, gas works and similar development. So, by adding 100 acres of Letchworth Park to the above area of 1,300 acres, it will be seen that considerably over one-third of the estate will be occupied by the town and the public parks, leaving the remainder for agricultural purposes. Provision is made for a population of 30,000 persons, or about 35,000, inclusive of the villages outside the town and the population engaged in agricultural pursuits.

### HOW ONE MAY HELP.

Do you live in the city? Let people in your block put out trees; plant shrubbery between the walk and the street; cultivate a love for flowers; take all tags off trees and poles in the block; make the children a police force to care for and protect these things, and you will be training them for future usefulness, giving an object lesson to people in adjoining blocks and improving your own surroundings. Do you live in a village? Then you have a greater opportunity for work than elsewhere. If trees are needed, plant them for such persons as will promise to care for them and replace them if they die. Are the telephone and telegraph poles, the trees and fences within the corporation limits covered with bills? Get the village board to pass an ordinance forbidding it, and then take off those already on. If the papers and rags thrown around give your street an untidy appearance, place wire baskets labeled, "Please put waste paper here," at needed points. After these are in place ask the board to allow the street commissioner to empty them when full. It will generally do so, and you are educating the members. Are your depot grounds untidy? Set out trees and ask the help of the railroad company. If you have three or four women who will undertake to form an organization, form it, and you will succeed. Form it of women rather than men, for they are more economical and more willing to work with small beginnings, but do not reject the men if they offer to help; the united effort of men and women is the ideal combination for effective work, and if the children want to have a hand in it, give them their small tasks, bless them!"—Louise J. Pearson, in Park and Cemetery.



The Flat

**A NEW KIND OF APARTMENT HOUSE.**

ALMOST every sort of apartment house would seem to have been invented and put into practical operation in New York, but a real estate journal has discovered a class of city inmate who is not yet accommodated with his special building, and proposes an apartment house of a new type for people of this sort—the “roomers,” the multitude who neither live in apartment houses nor hotels, but who simply rent rooms. The proposal, which is made with some detail, has an attractive air of profitability.

The plan, in brief, is to erect a six-story building on a lot 50 x 100 feet. The structure must be planned to meet the requirements of the hotel provisions of the building law. This necessitates fireproofing; but then, as a compensation, ninety per cent. of the lot can be covered, as against sixty-two per cent. under the stricter requirements of the tenement-house law. On each floor of the proposed building there will be twenty rooms, each room 9 x 15 feet, equipped with closets and hot and cold running water, and, of course, steam heat. A bathroom will be provided for each three rooms, so that, as the apartments will intercommunicate, it will always be possible to rent to a tenant that may require so much accommodation, three rooms and a bathroom as a single unit. Finally, an elevator will be installed.

This plan permits, in a building of the size mentioned, one hundred and twenty rooms, all of which, presumably, can be rented furnished for four or five dollars per room per week. It is calculated that a house of this character can be leased by the owner unfurnished to a lessee at the rate of about one dollar and twenty-five cents per week per room—the difference of three dollars and seventy-five cents being the amount assigned to the latter for the cost of furniture, and to meet running charges and provide profit, etc. Supposing the furniture of each room to be worth one hundred dollars, then the necessary outlay for the equipment of the house will be \$12,000. But not all of this amount will be required in cash. Perhaps not more than \$5,000 down will be needed, and the lessee's equity in the furniture will provide a security for the lease.

As to the owner's investment, it is supposed that he will pay \$50,000 for the land and \$65,000 for the construction of the building, \$115,000 in all, upon which he will carry a mortgage of \$75,000 at 4½ per cent., or better, if possible. And figured in this way, he expects a net return on his actual investment of \$40,000 some-what as follows:

	Dr.	Cr.
Rent per annum, say.....		\$8,000
Interest on \$75,000 at 4½ per cent.....	\$3,375	
Taxes, say.....	1,400	
Water rent, say.....	200	
Insurance, say.....	100	
	\$5,075	
Balance.....	2,925	
		\$8,000

Showing a profit of about 7.3 per cent.

**A GORGEOUS APARTMENT.**

THE reporter of a New York daily paper recently visited a lady who had installed her household goods in an apartment, the rent of which might be anywhere from \$25,000 to \$30,000 per year. As is naively remarked, a visit to such a place gives a glimpse of hotel life new to most people. A private elevator leading directly to the apartment to be visited brought the visitor to a hallway radiant with crimson electric lights, bronze busts, and tinted cupids. The reception-room was in white and gold. This room is described as filled with costly bric-a-brac—Dresden shepherdesses, naiads in Parian marble, bits of bronze, rare Dresden fans hung in gilded frames, pictures, delicate blue draperies, and ceiling decorated with flying doves that looked furtively down on chairs and tables that had the appearance of being constructed of solid gold.

Then followed a visit to the workroom of the occupant who, it appears, employed her time in the composition of hymn tunes. Then came a visit to the bedroom, where the lights disclosed a flash of iridescent Egyptian flowers of golden brown shading into crimson at every nook and cranny, above pier glass and mantel; for this was an Egyptian bedroom all gold and brown, the beautiful bed on a dais, very rich inlaid ebony, covered with cloth of gold embroidered in a soft dull brown Egyptian pattern. Above the bed, around it, and below bas-reliefs of marble Cupids held baskets of poppies, and on the ceiling more Cupids in mural decoration disported themselves.

New Building patents

The following list of New Patents relating to Building and Sanitary Science is prepared expressly for the SCIENTIFIC AMERICAN BUILDING MONTHLY by MUNN & Co., Solicitors of American and foreign Patents.

A PRINTED COPY of the specification and drawing of any patent in this list, or any patent in print issued since 1863, will be furnished from this office for 10 cents, if exact date or number is furnished. Remit to MUNN & Co., 361 Broadway, New York.

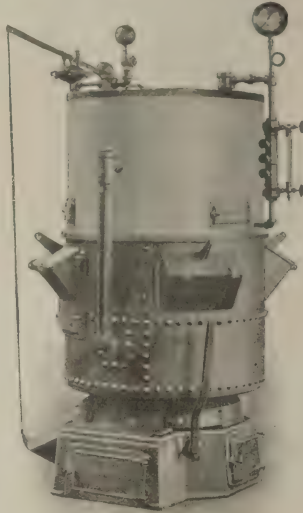
BRICK, STONE AND TILE.		
GLASS FACED BRICK, TILE, ETC. E. Kaye, Monaca, Pa. May 3.....	758,975	
HOLLOW BUILDING BLOCK. H. S. Palmer, Washington, D. C. May 3.....	759,010	
TILING FOR FLOOR AND WALL COVERINGS. A. W. Nilsson, New York, N. Y. May 3.....	36,906	
TILING. J. A. Sloan, Trenton, N. J. May 17. Design 36,820		
BUILDING BLOCK. F. W. Blakelee, Ashtabula, Ohio. May 24.....	760,774	
FIRE BRICK. F. W. Shupert, Hilliard, Wash. May 31. 761,418		
CARPENTRY.		
WEATHER STRIP. Dowden & Robb, Brooklyn, N. Y. May 3.....	758,626	
HORIZONTALLY PIVOTED WINDOW. J. E. McGinness, Pittsburg, Pa. May 17.....	760,140	
AUTOMATIC WEATHER STRIP. L. Rotlier, St. Louis, Mo. May 17.....	760,254	
WINDOW. Hausfeld & Luken, Cincinnati, Ohio. May 24.....	760,624, 760,625	
WEATHER STRIP. W. J. Perry, Red Cloud, Neb. May 31.....	761,395	
CONSTRUCTION.		
BUILDING SECTION. S. Hanson, Lamberton, Minn. May 3.....	758,645	
FLOOR AND PROCESS OF BUILDING SAME. Wight & Townsend, New York, N. Y. May 3.....	758,728	
ILLUMINATING STRUCTURE. F. L. O. Wadsworth, Williams Bay, Wis. May 3.....	758,877	
COLUMB. J. C. Petersen, Racine, Wis. May 17.....	760,347	
GIDER AND JOIST CONNECTION FOR POST. Alschuler & Adler, Chicago, Ill. May 24.....	760,511	
POST CAP. A. S. Alschuler, Chicago, Ill. May 24.....	760,512	
WINDOW CONSTRUCTION. Hausfeld & Luken, Cincinnati, Ohio. May 24.....	760,626	
BUILDING CONSTRUCTION. A. Haag, New York, N. Y. May 24.....	760,688	
SHUTTER. C. D. Spalding, Baltimore, Md. May 24.....	760,764	
SCAFFOLD BRACKET HANGER. E. Fegert, Cedar Falls, Iowa. May 31.....	761,156	
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SASH LOCK. A. J. Meljeehe, Jackson, Tenn. May 3.....	758,679	
LOCK. S. W. Peregrine, Trenton, Canada. May 3.....	758,849	
SASH FASTENER. R. Baxter, Milton, New Zealand. May 3.....	758,952	
SASH LOCK. Lotenzo H. Sparks, Warren, Ohio. May 11.....	759,642	
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VENTILATOR. C. P. Tanner, Macon, Ga. May 3.....	758,720	
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URINAL. D. Craig, Melrose, Mass. May 3.....	759,078	
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SINK. B. J. Meloney, Allegheny, Pa. May 10.....	759,457	
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PLANE. A. F. Schade, New Britain, Conn. May 3.....	758,698	
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SCREW DRIVER. O. Ohlson, Newton, Mass. May 31.....	761,391	

Publishers' Department

**SIDE FEED BOILERS.**

THE engravings show the latest pattern steam and hot water boilers, manufactured by the Gorton & Lidgerwood Co., New York, Boston, and Chicago.

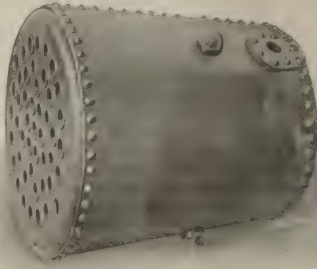
The Gorton side feed boiler is made in two parts, the tubular part, or the boiler shell, being directly over



THE GORTON SIDE FEED STEAM HEATING BOILER.

the fire, and the lower part, or the water leg, surrounds it. The two parts are connected by circulating pipes, one in front and one at the back, except in the four largest sizes, which have four of these circulation pipes.

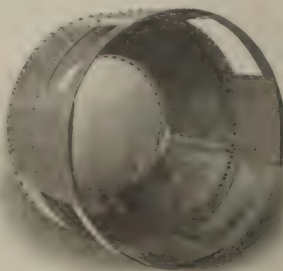
The boiler shell is supported by the lower jacket ring, which rests on the upper part of the water leg, and it is surrounded by a galvanized iron jacket. The



THE BOILER SHELL.

lower part of the shell extends down into the upper part of the water leg, and the space between the shell and the water leg is utilized for the coal reservoir.

The coal pockets are bolted to the upper part of the water leg and are equally spaced, so that in filling the reservoir the coal is evenly distributed. One pocket



THE WATER LEG.

is larger than the other, and is hinged on so that it can be opened for getting at and cleaning the fire.

The inside of the water leg is cone shaped. The coal in the reservoir feeds down below the lower edge of



the boiler shell at an angle of forty-five degrees, toward the center, as needed for consumption, thus keeping an even depth of coal over the entire surface of the grate at all times. The boiler is at the proper distance above the grate to allow ample space between the top of the fire and the boiler for perfect combustion of the gases, which gives the greatest economy in fuel.



GORTON SIDE FEED HOT WATER BOILER.

The boilers, both steam and hot water, are made of steel, with best charcoal wrought iron tubes, the shell being one-quarter inch thick and the heads five-sixteenths inch thick, and of the best flange steel, of 50,000 pounds tensile strength. Safety and durability are thus assured.

By reason of its special form of construction the Gorton side feed boiler will maintain a steady fire and a constant supply of heat day and night. It has withstood the test of the extreme cold weather of the past winter, the lowest on record, thereby proving that it can always be depended upon to fill the requirements of a perfect heating apparatus. Information and catalogue sent free on application at No. 96 Liberty Street, New York, N. Y.

#### A METAL BOOTH

The booth of The Berger Manufacturing Company, of Canton, Ohio, at the St. Louis Exposition, is located in the Varied Industries building, block 9, and is in the care of Walter W. Stevens, an able representative of this well known firm. The booth is constructed entirely of metal, and was produced in its entirety in the shops of the Company. It is in the Doric style of architecture, having columns, etc. The interior of the booth is handsomely finished in ivory white, and the columns in imitation of Italian marble, with the capitals in silver. The general scheme of the interior finish is for the purpose of setting off the beautiful and harmonious decorative possibilities in colors secured through the use of Berger's classified designs in metal ceilings and sidewalls. The extensive output of sheet-metal productions of this firm is well shown in the booth, including a line from its steel furniture department, showing up-to-date and skillful construction. The attractive appearance of the booth will doubtless draw the attention of thousands of visitors during the fair, and this firm will thereby accomplish a well planned scheme for information on and advancement of its productions.

#### A CEMENT BUILDING.

A new creation in building, and one so successful as to excite extreme interest among the building public, is shown in the accompanying illustration. The structure marks the highest flight of plastic material into architectural use, and stands for "what is practically a monolith of reinforced concrete." It was recently erected in Cincinnati, Ohio, by M. E. Ingalls, President of the Big Four Railroad, from plans of architects Elzner and Anderson, and is of more than the usual concern to expert builders; both because it is the first tall structure ever attempted in concrete, and also for the reason that "Tiffany" satin (dull) finish enameled bricks were used for the main part of the two fronts, from the third to the fifteenth story, the lower three stories being constructed of stone, and the upper two of ornamental glazed terra cotta. Mr. E. C. Shankland, in summing up his expert engineering report, in *Fireproof Magazine*, relative to his investigation of the Baltimore fire, says: "Granite and other stone will continue to be used for lower stories, but should not be put in any above the second or third." "Ornamental terra cotta has shown

itself to be much inferior to brick, and the latter should be used as far as possible." That enameled brick is a suitable material for exteriors, as well as interiors, is shown by its having been selected for such other buildings as the Third Church of Christ, Chicago, the Tribune Building, Minneapolis, Shukert Office Building, Kansas City, and the Sims Library, Waxahachie, Texas. The cost is not as high as granite or stone generally, nor as that of terra cotta; and its fireproof qualities, beauty and cleanliness should especially recommend it to builders. The wide popularity which this material enjoys is due to the facts that it does not craze or scale, that it withstands all climatic excesses, and that it is adaptable to various tastes, as it is made either in the bright, highly glazed, or satin (dull) finish. The latter does away with any glare, and gives a soft and pleasing effect in the wall. High-grade Portland cement, clean sand, with grains of unequal size, and crushed stone constitute the body of the concrete, and to show the extent of its use in this new edifice, and its particular features, we take the following statement from the Architectural Record: "The Ingalls Building occupies the entire area of a corner lot, 50 by 100 feet, and is fifteen stories and a full attic, practically sixteen stories, rising to a height of 210 feet above the sidewalks. The one-half of the basement is the usual twelve feet deep; but the other half, containing the power plant, is twenty feet deep. The foundations extend five feet below this, so that the entire height of the structure from the bottom of the foundation is 235 feet, entirely concrete-steel. In fact, it is a concrete box of eight-inch walls, with concrete floors and roof, concrete beams, concrete columns, concrete stairs; the whole entirely devoid of the usual I-beams, Z-bars, angle irons, plates, rivets, and bolts. It consists merely of bars embedded in concrete, with the ends interlaced, making actually a complete concrete monolith of the entire building, covered on the exterior with a veneer from four to six inches thick of white marble for the lower three stories, glazed gray brick for the next eleven, and glazed white terra cotta for the top story and cornice." As the new

competent critics as to the success of the experiment. They said it would never reach the height prescribed in the design; that if it did it would disintegrate and fall to pieces by shrinkage cracks, and that it could not possibly withstand wind pressure. But it was completed without difficulty or delay, it did not develop shrinkage cracks, and in the heaviest winds to which it has been subjected it has not shown a perceptible tremor." Praise can go no further. It shows the responsibility of the manufacturers, the Tiffany Enameled Brick Company, of Moline, Illinois, and that of the architects, in completing this "skyscraper," has been courageously and scientifically taken. Valuable information on the subject will be sent free on request by the Company.

#### COUNTRY AND SUBURBAN HOUSES.

INTENDING builders, confident in their capacity to know just what is wanted as a country or suburban house, often have their conceits punctured by the early reminder, that, if building again, they would do it in



DUTCH COLONIAL HOUSE.

some different way. Not to be placed in this position, requires the advice of those experienced in all the methods of the allied building trades, and practical men connected therewith. This is secured in the services of an architect, and in a way pointed out in a very instructive publication on country and suburban houses, by William Dewsnap. It is in the form of a collection of interior and exterior perspective sketches and floor plans for up to date houses in the Colonial, artistic, English half timber and other styles; with introductory, general specifications, interior suggestions and advisory chapter to intending builders. As there is no art more concretely a part of our daily life, more strongly a means toward modern civilization, or more embracing the work of all artisans, it is a wise preparation of a home builder to have the aid of its professors. Whether the house be one of beauty of lines and proportions, of elegance of material, or one built in simpler or more economic manner, the spacing, lighting, heating, ventilating, and many appliances that add to comfort and pleasure, should be modeled on fixed principles of good design. Only in this manner, is the layman sure of avoiding an architectural outrage, a pitfall of discomfort, and securing convenience in arrangement, economy in planning and construction, ease, pleasing and harmonizing color effects, and furnishings. How often a fairly presentable frame is seen, of which the interior is laid out like stalls, or reversely, an inside plan of average appearance and convenience, handicapped with an exterior fashioned like a box. The portfolio under notice will not permit these architectural solecisms, but teaches the art of accommodation between exterior form, which gives style and proportion, and interior plan, which has vista and axis, that several rooms may be thrown into suite, that the impression given on entering is not a room of so many feet height or breadth, but of several rooms arranged in such a way as to give a good view from one into and through another, and perhaps over the grounds and landscape beyond. In treating on interior suggestions and general specifications, the architect, by fine illustrations and descriptions of the rooms of American homes, thoroughly demonstrates that it is an easy matter to build a satisfactory house if you have complete, accurately drawn plans, specifications and details. He reinforces this by a splendid presentation of a page of half-tone engraving and plans to each style of house, thirty in number, and including bungalow, English, Californian, Colonial, city, suburban, old English Colonial, Elizabethan, artistic, Dutch Colonial, English half timber, Southern Colonial, and double house styles. Besides the first and second floor plans, and the finished exteriors, there are separate illustrations of parts running from a china closet to a reception hall, a cozy corner to the large library, etc., and cost and specifications. The accompanying illustration shows a Dutch Colonial style of house, reduced about four times in size compared to those in the Dewsnap Portfolio, published at the American Tract Society Building, No. 150 Nassau Street New York, N. Y.



INGALLS OFFICE BUILDING.

venture rose story by story, predictions were made of failure at important points. On this subject, a recent editorial on the building, in the *New York Times*, says: "During the progress of the work of construction grave doubts were expressed by persons assumed to be



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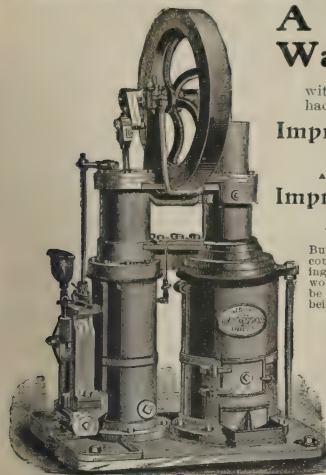
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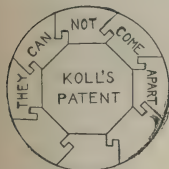
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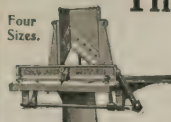
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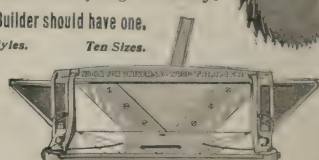
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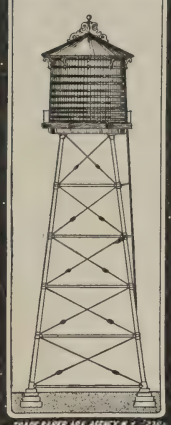
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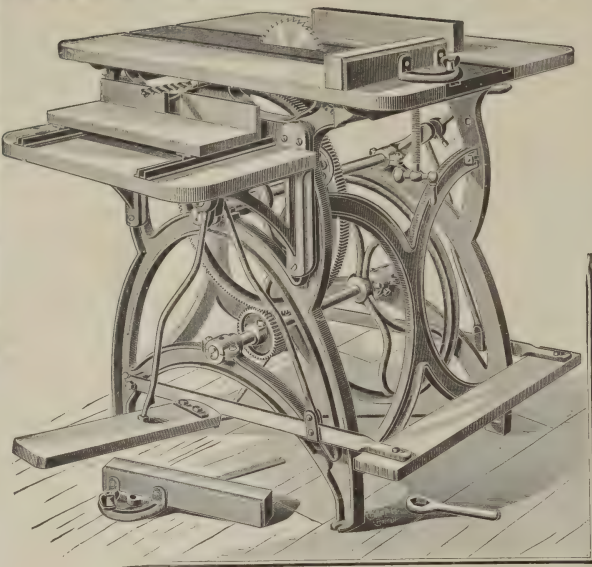
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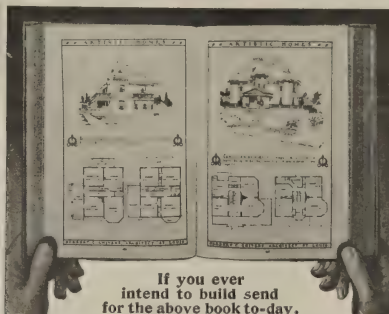
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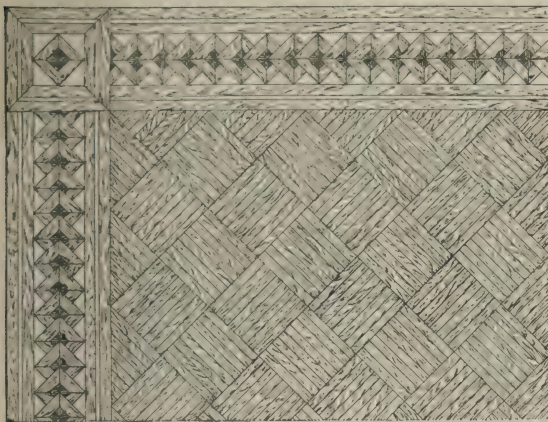
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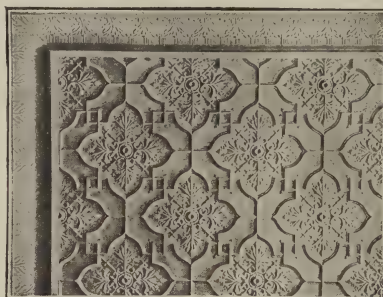
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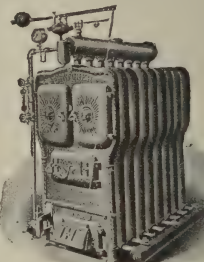
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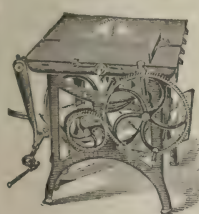






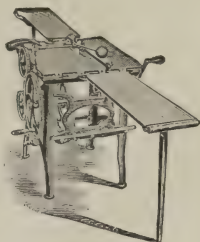
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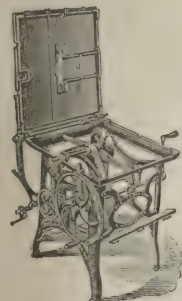
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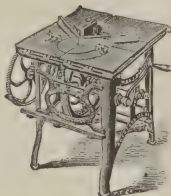
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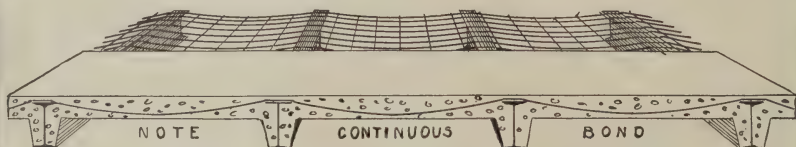
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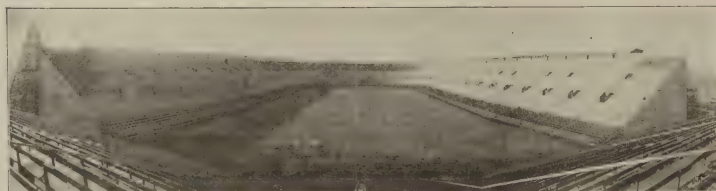


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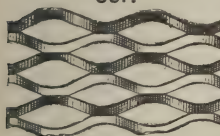
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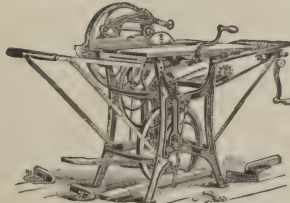
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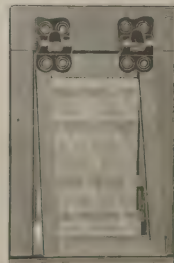
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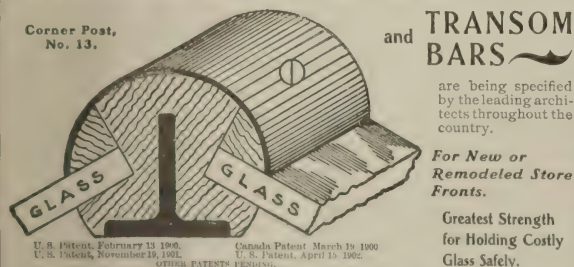
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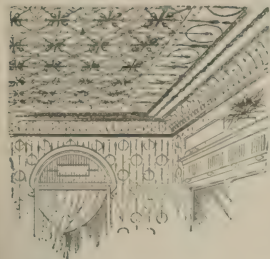
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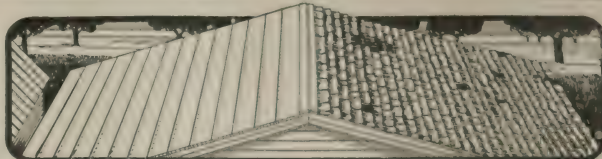
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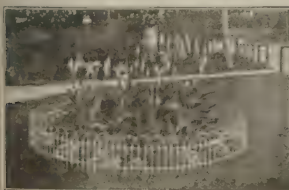
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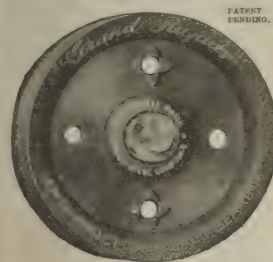
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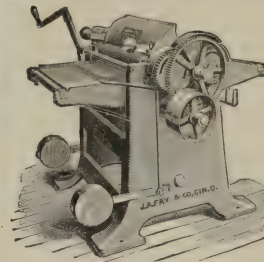
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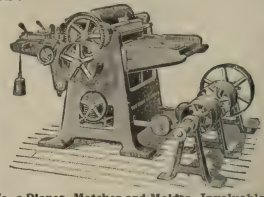
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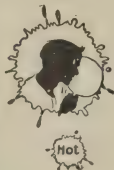
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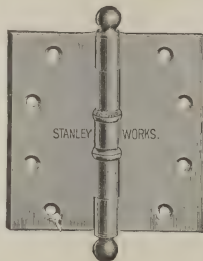
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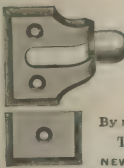
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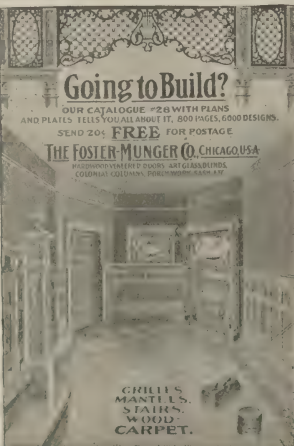
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# SCIENTIFIC AMERICAN

## Building Monthly.

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THE TERRACE IN THE GARDEN.

THE ESTATE OF HENRY W. POOR, ESQ., TUXEDO, N. Y.—See page 25.

MR. T. HENRY RANDALL, ARCHITECT.



# SCIENTIFIC AMERICAN BUILDING MONTHLY

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\*The engravings presented in this issue are made from photographs taken specially for the SCIENTIFIC AMERICAN BUILDING MONTHLY.

## MONTHLY COMMENT.

THE difficulty of quiet living has seldom been more sadly illustrated than in the case of a gentleman in Kansas City. Desiring quiet more than a home, he purchased forty-two and a half feet of land a block and a half from his nearest neighbor and four miles from his place of business. By the time he had made three monthly payments he learned that some one had bought the two lots immediately adjoining his on the north, and another party three lots across the way where a street was to run at some time in the future. Four months later thirty families "owned homes" in the block; of these fourteen had pianos, ten phonographs, four cabinet organs and one a cornet. The seeker after quiet alone was without mechanical sound makers. It can readily be imagined that, as the shades of evening fell, the neighbors did their best to make the time pass agreeably, leaving their doors and windows open while engaged in this pleasing diversion. The reporter of the case states that the phonographs were the worst. The quiet man offered his house for sale, but found no buyers, and he went back to boarding. He gave his house rent free to a Chinese laundryman, sold his furniture, and purchased a second-hand steam callopie with the proceeds. He gave this, together with a self-instructor and three tons of coal, to his heathen tenant. His revenge was complete, ample, penetrating and superb.

MR. H. G. WELLS, whose speculations on future civilizations have given him a world-wide fame, rises up in protest against the very commonly received opinion that a low birth rate is an evidence of national decay. He very rightly points out that the Russians, the Hindus, the Egyptians and most negro people have a high birth rate, but that none of them seem in a fair way to subdue the world. Moreover, he sagely points out that in taking any one year or period of years as a

criterion it is quite possible to draw deductions which are completely different from those which would have been drawn had another set of years or another people or place been chosen. His main argument, however, is that a declining birth rate need excite no alarm as long as the death rate is also on the decline. The point is an interesting one and well worth the attention of race philosophers.

AN English magazine has been holding a competition for designs for "Week-End Cottages." The object of such a building is to afford a simple home, inexpensive in its first cost and in its maintenance, to which the busy man can run away from town and spend as much time as possible before and after Sunday. Two plans for the practical equipment of such houses were proposed, one including those which were entirely closed when not in use, the other those which provided space for a permanent caretaker or servant. Houses of this sort are used quite a good deal in France and in other places on the Continent, but have not yet come into anything like general use in America. The chief objection is, undoubtedly, that of taking care of them. If the house could be closed and left alone when not in use the cost of such summer dwellings would be very slight. It would doubtless be found safer to have a permanent caretaker, and this would increase the expense to such an extent as to take away a good deal of the charm of picnicking, which is the chief pleasure in such places on the Continent. Most people who hire permanent caretakers are able to afford a more pretentious type of dwelling than a cottage intended to be occupied only a few days a week.

A PORTABLE house exhibited in Vienna some time ago had a number of points of interest. It was a well designed, thoroughly equipped house, so built that the whole of it, furniture and all, could be moved in two modern furniture vans. The cost of the house itself was about \$2,000, and of the furniture, fittings, etc., about \$1,000. The total weight was 25,000 kilogrammes. The house had three bedrooms, sitting-room, dining-room, servants' room, and kitchen. The absence of a bathroom was accounted for by the suggestion that such a building would probably be erected by a lake or on the seashore. It is described as a very successful experiment, well worthy of development. Truly it will be a new order of things when one can move one's house around as one moves one's trunk or cherished articles of furniture.

## ARCHITECTURAL IDEALS.

ARCHITECTURAL ideals represent something very different from ideal architecture. Ideal architecture is rare and unusual, almost unobtainable and actually seldom seen or known. It does not necessarily mean the impracticable, because human genius, in its finest architectural moments, has sometimes realized the ideal in architecture in buildings which have been erected and put to some use. The Taj Mahal in India is, perhaps, the first building which comes to mind as filling every possible requirement of ideal architecture, a building of such ethereal beauty, of such wonderful art, of such exquisite taste, and so marvelously environed as to stand supreme among the ideal structures of the world. Mr. Ruskin endeavored to teach that the front of San Marco in Venice approached the ideal in meeting every requirement of beauty, and perhaps he was right; he certainly convinced many people of the soundness of his views. Gothic architecture produced many structures of a beauty so pronounced and of an art so refined that they can well be classed as types of ideal architecture. The vault of Henry VII.'s Chapel in Westminster Abbey may be taken as a type of Gothic that is at once ideal in its beauty and practical in performing its structural service as a roof. Ideal architecture, therefore, has been obtained, not once, but many times, and in many forms. It may be expressed in other words as the highest type of architectural beauty.

Architectural ideals, on the other hand, are personal beliefs and predilections. They stand for personal appreciation of architecture. They rest on knowledge, and are furthered and increased by acquaintance with the best monuments of architecture. \*They are recognized and appreciated by those who, not content with accepting the dicta of others as to the merits of buildings, are themselves judges and admirers by reason of their own knowledge and volition.

One must know architecture in order to have a sound architectural judgment. Ideals in architecture are not obtained without culture. A broad mind, a keen understanding, a fine appreciation of what is right and good and true and beautiful in architecture is essential to the development of architectural ideals. They represent a standardization of opinion, a reduction of verdicts, a comprehension of purposes and efforts. One can not adhere to an architectural ideal without a profound personal conviction that it is right. It is knowledge sublimated and refined; it can be compared not so much to the raw material, as to the rare element

obtained after many chemical reductions, the element so rare that its recovery amounts to a discovery. It is the obtaining of a central fact from a scrutiny of many facts.

And the ideal once maintained, the standard once set up, the conviction once obtained, it must stand the test of criticism and survive every possible disaster. The true architectural ideal can not be lightly shaken or swiftly discarded. One may, indeed, outgrow it; one may, in time, come to disregard it; but it has never been a true ideal if the succeeding stage does not represent a higher opinion, a more exalted view, a nobler conception.

Ideals in architecture, as ideals in other products of the human mind, are often variable. The ideals of one will not be the ideals of another; and the ideals cherished at one period of study or enlightenment will not be the ideals that will come with profounder surveys of the architectural situation. But the architectural idealist, the man with architectural ideals, will always be looking onward and upward; if he glance back it will only be in amazement that at any time his discarded views should be his or have been his own. The motto of the architectural idealist is "Excelstor."

Ideals are judgments refined and purified through study and criticism. They are not the mere thinking the ideals are right, but the sure and certain knowledge that they are. To like a thing and to like certain kinds of things is the first step in reaching an ideal judgment, if the liking has a sound basis. But to merely like, without knowing why, without being able to buttress one's judgments with reasons, is nothing at all but the expression of a personal inclination, of the critical value of expressing a preference for watermelons over strawberries.

Architectural ideals are essential to the progress of architecture; but it is almost as bad for one community to have too many different kinds of ideals as to have none at all. The history of architecture offers many beautiful forms to which one may attach ideal preferences. It is obvious that if a dozen or twenty such ideals are turned into practical expressions in any one community the results will produce such a variety of judgments, such an abundance of different examples, such a clashing of standards, that those who have no ideals whatever in architecture will have no visible outward form of guidance to their own opinions.

It is one of the highest functions of the architectural ideal that it helps toward standardizing opinion wherever it may have opportunity of flourishing. Neither architecture nor art is helped by the multiplication of styles any more than language is helped by the multiplicity of tongues. No doubt a dozen people could be supremely happy in living in houses of as many different styles; but the sum total of architectural progress in the vicinity of such constructions would be slight indeed. Even if well done, such buildings would only mean that certain forms and styles had been well studied and certain modern archaeological translations accomplished. Of progress as progress, of realization of ideals, of useful lessons taught by ideals, nothing at all would have been accomplished.

And that is one of the important duties of architecture; to serve as a stepping stone to further advances. The architects of the middle ages, the architects of the Renaissance, did not design in several styles, but in one; and the wonderful beauty of their labor is chiefly due to this essential fact. Much of modern architectural work has been haphazard and without point. If there have been ideals they have been varied ideals. Each few years has produced a new style and a different one than has been more or less in vogue because of the genius of the architect most closely identified with it, or because of the social prominence of the persons whose buildings have set the latest fashions.

The single merit of fashion in architecture has been that disordered fashions have passed quickly away and more reasonable work taken their place. It has been a negative merit which has been harmful because it was not positive. And this variability has been wholly without ideals behind it. Changes have come, new modes have grown popular, not because the older mode has been found insufficient, but because of the craving for novelty, the search for the new. That newer styles have sometimes been found better than older ones has been of advantage so far as it goes; but in too many cases the change has been for change only, and not because ideals have bettered and advanced.

Architectural ideals should be sought, and when found valued supremely. They mean a better architecture. They stand for architectural appreciation. They represent architectural knowledge. They mean that the inward spirit of architecture is being sought and efforts made to express it. They can not be too high—for the sordid conditions of economic building and the inexperience of unrealized architects will make our buildings at the best fall far short of even moderate ideals. But let us by all means keep what we have, and not cease from striving for more and better ones.



## NOTABLE AMERICAN HOUSES

BY BARR FERREE.

THE ESTATE OF HENRY W. POOR, ESQ.,  
TUXEDO, N. Y.

THE success of the beautiful private park controlled by the Tuxedo Park Association at Tuxedo, N. Y., has been too thoroughly established and is too well known to need rehearsal in detail in this issue. It sums up and contains every element of a most brilliant success. It is near enough to New York City to be reached without an undue expenditure of time—the actual time from Jersey City is about an hour; it is situated in a region of great natural beauty, on hills and in valleys of true mountain scenery, thickly wooded; its natural water has been expanded in an apparently completely natural manner into lakes of great beauty; it has been parked with superb roads; and, crowning distinction of all, it contains some of the finest country residences in America, houses, many of them, of distinguished beauty and very interesting individuality.

Every possible element contributes to the charm of this delightful place. If not very numerous served

But the fortunate folk who live in this delightful place are not suburbanites in any sense of the term. Their place of abode is not a suburb; although an hour from the metropolis is really very close at hand—but they live in a great park of their own, suitably shut off from the rest of the world by wise restrictions; a park so large that each house has every element of privacy, and yet the whole community has a bond of comradeship from living within common grounds that gives a sense of companionship and of easy access, while still retaining a distinct aspect of individuality and privacy.

The area covered by the Park is so large that houses of great size—as many of them are—have ample grounds of their own, and are so widely spaced and so admirably distributed that there is exactly that sense of nearness that the most inveterate country lover comes to crave in time, and yet no hint of crowding, hardly a suggestion of proximity. There is no spacing off of grounds with fences, there are no sharp lines of demarcation; even the stable question has been solved in a thoroughly happy manner by common stables for those who wish them, and a few private stables for

of Mr. Lorillard is actually on higher ground, but from the entrance of the Park, and from many points within it, the Poor house is the crown and summit of the whole. And very happily it fulfils this function. Its architect, Mr. T. Henry Randall, has chosen the Jacobean style as the basis for his design, and has produced a beautiful house, stately and dignified in its parts, and admirably adapted to its position on the summit of the hill. No tower or pyramidal effect was needed to give emphasis to such a situation, but the roof line is very happily broken by the curved gable ends, the tops of which stand out free against the sky.

The house is U-shaped in plan, the hollow containing the entrance front, being away from the bluff on which it is built. This front consists of a slightly extended center, with an open porch below, and two short wings, which create an open court. The house is built of dark red and black brick, with stone trimmings. There is a two-story stone porch on each end, but the most elaborate feature of the exterior is at the main entrance—a richly carved frontispiece of stone that very happily emphasizes the entrance and harmonizes with the architectural details of the interior.



THE HALL.—ESTATE OF HENRY W. POOR, ESQ., TUXEDO, N. Y.

by trains, the traffic arrangements are doubtless ample and sufficient for the residents. A station wagon service, controlled by the Association, is so ample and complete as to leave nothing to be desired either in convenience or in moderate charges. The difficult problem of transportation is, therefore, completely solved, and one of the most awkward questions in suburban development has been settled and arranged in the most complete manner. That this is one of the most difficult problems of suburban living every suburbanite is often unhappily aware; the arrangements at Tuxedo Park seem to be absolutely perfect.

those who prefer to keep this important feature of country life entirely within their own control.

And the houses! These are not suburban houses, nor even country houses of the ordinary type as interpreted by the average standard. Many of them are sumptuous mansions, built by our most brilliant architects, costly houses of stone and brick, designed in fine types of architecture, and having every element of splendid living. One wonders momentarily, in the rapid drive through the Park, at the vast expense of bringing all this exotic material into this wilderness; yet the results have amply justified the cost, for surely, in all the regions within easy access of New York, there is no place more delightful to live in, more highly developed as to roadways and grounds, more splendidly supplied with dwelling houses. It not only seems an ideal place of residence for men of wealth—and no others can afford to live within its charmed precincts—but it must be so.

nizes with the general architectural scheme. The whole design is quite symmetrical, although the left wing contains an addition for the service rooms, and a kitchen court enclosed within a brick wall. These parts have, however, been so subordinated as not to interfere with the general harmony and symmetry of the design.

The garden front follows out the same general idea, but the three gables here are on a line instead of being, as on the entrance front, one of each wing and one in the center. The garden front has three slight extensions surmounted with gables, each containing bay windows in two stories. All the windows are in groups or pairs mullioned with stone frames. The side porches are fine, built of stone, with stone paneled piers; richly coffered ceilings add to the splendor of these porches. The one overlooking the lake seems built directly on the cliff; it commands a superb view.

The main doorway of the house opens directly in the hall, a gallery-like apartment which runs the full length of the house across the entrance front. Immediately in face is the drawing-room; to the right is a double arched entrance to the stairs, and then the library.

(Concluded on page 38.)

\* Previous articles in this series: "BILTMORE,"  
 THE ESTATE OF GEORGE W. VANDERBILT, ESQ., BILTMORE, N. C.,  
 February, 1903. "THE GARDEN AT GEORGIAN COURT,"  
 1903. "THE HOUSE OF LUDLOW," LUDLOW, N. C.,  
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 1903. "MAYLYN, N. Y.," September, 1903. "THE ORCHARD,"  
 COUNTRY PLACE, BRIDGE PLAZA, SO. CAROLINA, 1903.  
 "MAYLYN, N. Y.," November, 1903. "THE RESIDENCE OF W. L.  
 FLAHERTY," 1903. "THE HOUSE OF HENRY M. FLAGLER, ESQ., PALM BEACH, FLA.,  
 JANUARY, 1904. "FAULKNER FARMS," THE ESTATE OF MRS.  
 MARY ANN SPALDING, 1904. "THE HOUSE OF E. J. BERWIND, ESQ., NEWPORT, R. I.," April, 1904.  
 "GUY CRAIG," THE ESTATE OF J. MITCHELL CLARK, ESQ.,  
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 1904. "LEOPARD BLAIR, ESQ., BERNARDSVILLE, N. J.," June, 1904.  
 "THE HOUSE OF THEODORE SEAT OF DANIEL O'DAY, ESQ.,  
 DEAR BEACH, N. C.," July, 1904.





THE MANTEL IN THE DINING-ROOM.



THE ENTRANCE.



THE LOGGIA.

THE ESTATE OF HENRY W. POOR, ESQ., TUXEDO, N. Y.—See page 25.

MR. T. HENRY RANDALL, ARCHITECT.





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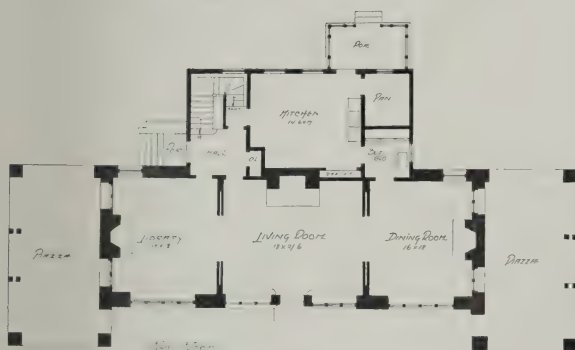


THE DEN.

THE ESTATE OF HENRY W POOR, ESQ., TUXEDO, N. Y. -See page 25.

MR. T. HENRY RANDALL, ARCHITECT

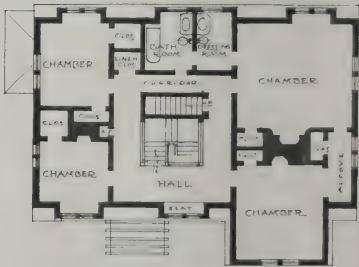




RESIDENCE OF W. W. ORR, ESQ., AT SCARSDALE, N. Y.—See page 42.

MR. JAMES BRICE, ARCHITECT.



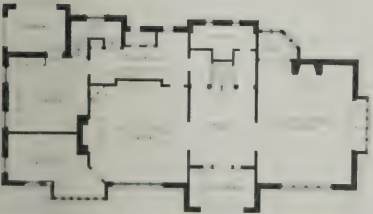


SECOND FLOOR PLAN.  
SCALE 1/8" = 1'-0"



RESIDENCE OF THOMAS DOLIBER, ESQ., AT BROOKLINE, MASS.—See page 40.  
MR. J. LOVELL LITTLE, JR., ARCHITECT.





RESIDENCE OF W. R. ROBESON, ESQ., AT SPRINGFIELD, MASS.—See page 42.

MR. G. WOOD TAYLOR, ARCHITECT.





LIVING-ROOM.



DINING-ROOM.

RESIDENCE OF W. R. ROBESON, ESQ., AT SPRINGFIELD, MASS.—See page 42.  
MR. G. WOOD TAYLOR, ARCHITECT.





• • • • SECOND STORY PLAN



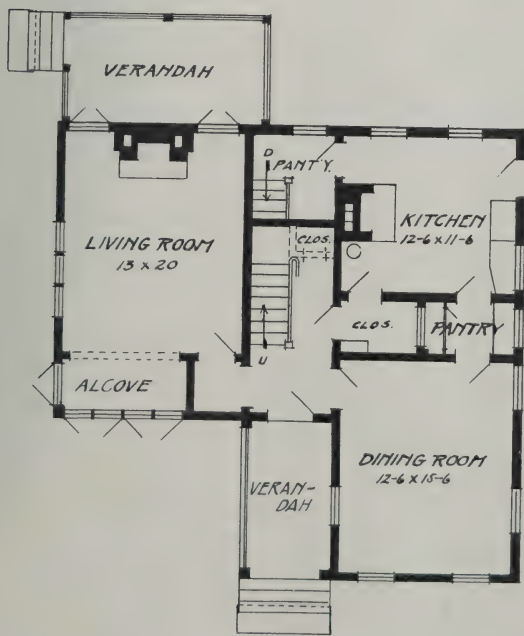
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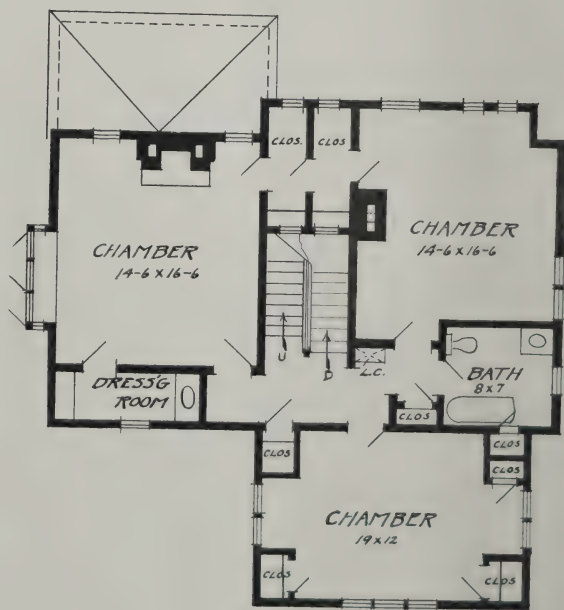
THE COLONIAL DOORWAY.

RESIDENCE OF SAMUEL WOOLVERTON, ESQ., AT SCARSDALE, N. Y.—See page 39.  
MR. JOHN C. MOORE, ARCHITECT.



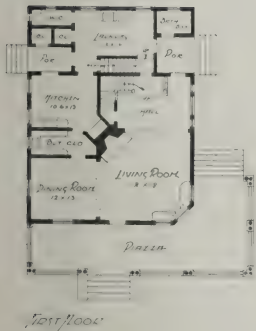
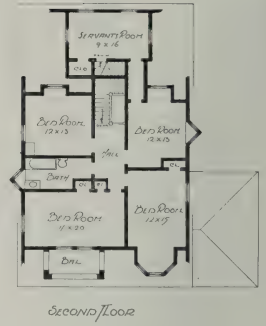


FIRST FLOOR



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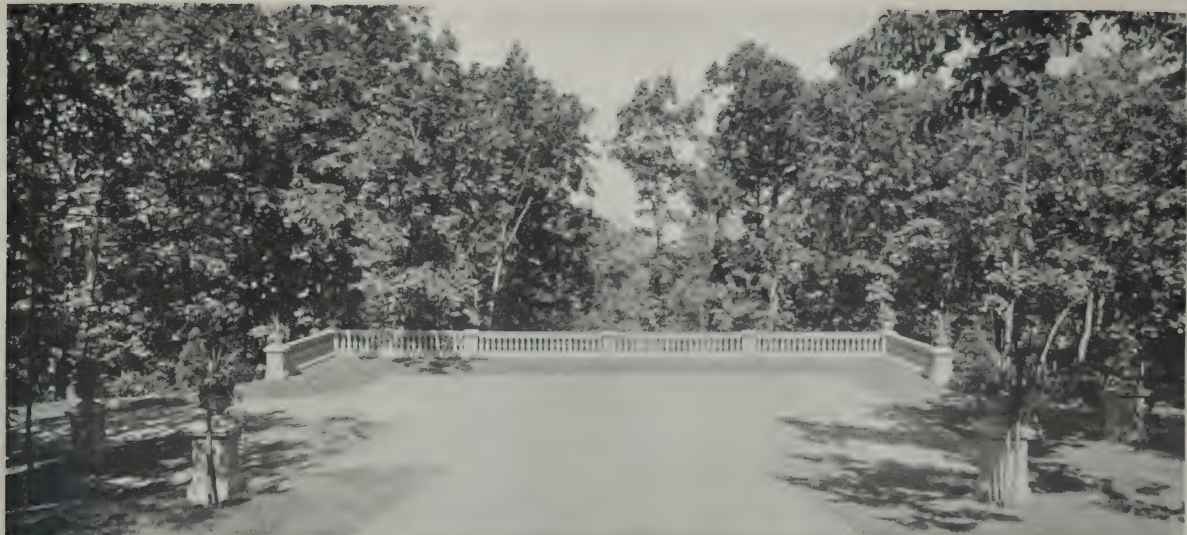




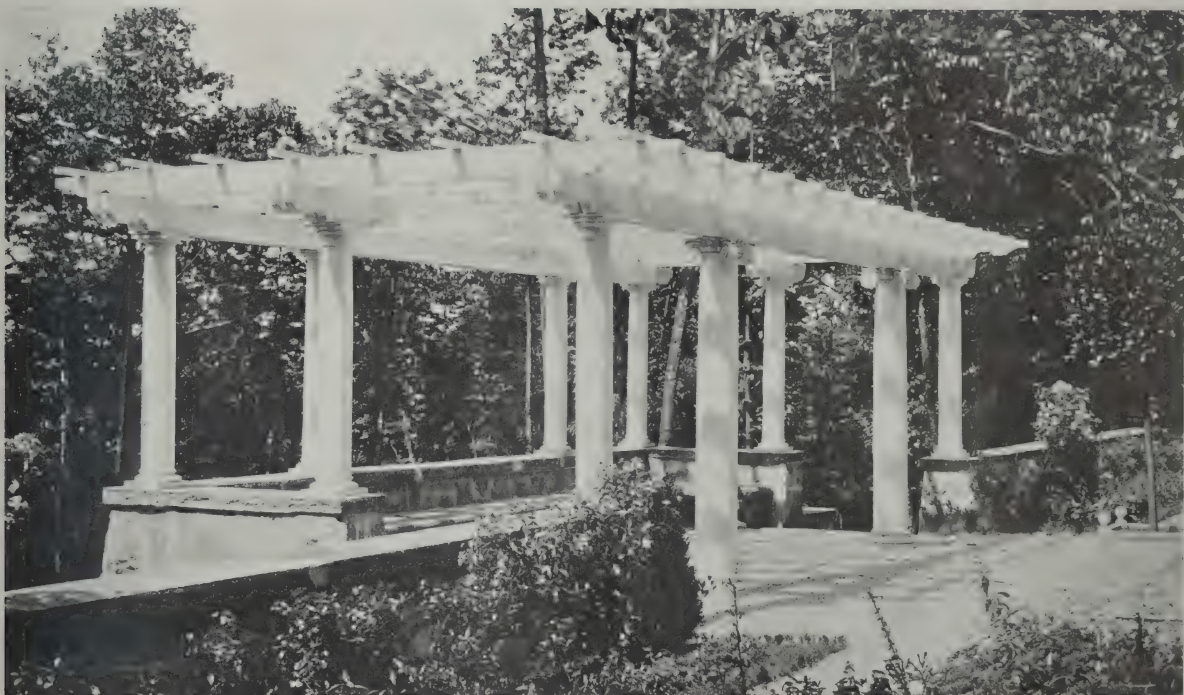
THE SUMMER HOME OF E. P. MERWIN, ESQ., AT WOODMONT, CONN.—See page 38.

MR. FRANK ELWOOD BROWN, ARCHITECT.





THE TERRACE.



THE PERCOLA.



THE FORMAL GARDEN.

THE GARDEN OF MOSES TAYLOR, ESQ., AT MOUNT KISCO, N. Y.—See page 40.

MR. CHARLES W. LEAVITT, JR., ARCHITECT.





THE DEN.

"BIRCH NEST," THE SUMMER HOME OF DOUGLASS SHERLEY, ESQ., AT BAR HARBOR, MAINE.—See page 38.  
MR. DOUGLASS SHERLEY, ARCHITECT.





THE BREAKFAST-ROOM.



THE DEN.



THE INGLE-NOOK



THE DINING-ROOM.

"BIRCH NEST," THE SUMMER HOME OF DOUGLASS SHERLEY, ESQ., AT BAR HARBOR, MAINE.—See page 38.  
MR. DOUGLASS SHERLEY, ARCHITECT.



THE ESTATE OF HENRY W. POOR, ESQ.  
TUXEDO, N. Y.

(Continued from page 35.)

which is entered from the end of the hall. To the left is a small reception-room, with the dining-room beyond and a passageway to the service rooms. All the main rooms on this floor, therefore, open directly on to the hall. It is an agreeable plan, for it puts all the rooms on the garden front, and leaves the entrance front free for the service and for communication.

A very charming hall it is, too. From floor to ceiling it is paneled in oak, with richly carved door-frames emphasizing the points of entrance. The ceiling, like all the ceilings on this floor, is plastered in geometric design. The floor is of hard wood, covered in the center with a rich green carpet. It is at once a hall and a gallery, admirably proportioned and treated throughout in a thoroughly architectural and dignified manner. Many handsome pieces of furniture are placed within it; high back chairs, handsome tables, a couple of fine old chests before the windows.

The drawing-room has walls covered with light gray silk of delicate texture. A fine old Italian door-frame, elaborately carved in stone, encloses the doorway. The chimney piece is also treasure-trove from Europe, and fills a goodly part of one side of the room. On one wall is a fine old piece of tapestry in a richly carved canopied frame. The room is not large; for this is a summer home, built for summer use only, for a life chiefly spent out of doors. There is no need for the spacious apartments sometimes characteristic of fine houses.

It is, therefore, quite natural that the library should be a larger room. It is lined throughout with books to

colored flower, seems all to be required. And very beautiful such simple results are here.

But Mr. Poor needed more than this. A splendid house on top of a hill is apt to be a bit isolated, and chiefly because hilltops are not the roomiest places in the world, their altitude seemingly making up for their slackness of area. This quite common characteristic of hilltops seems to have given Mr. Poor no cause for dismay; for he promptly argued that, if there were not room at the top, he would make room by building up his mountain until he had space sufficient and to spare. And that is exactly what he did; for the outer corner of his flower garden is supported by a high wall, not only giving him as much space as he desired on the summit, but giving him a corner of the globe that he has made his very own.

The flower garden is a lovely spot, arranged in terraces that gradually diminish in elevation, but still keeping well to the summit on which the house stands. It contains two fountains, both old and European—one with a bronze summit, the other wholly of stone. And of pots and well heads, of carved benches and ornaments, of bay trees and curious plants; of roses, dahlias and other plants of bloom and foliage, there is a plenty. It is a cleverly designed garden, too; for although the total area is not large as large gardens go, the apparent size is most considerable. A warm sunny place it is in the middle of the day; but a charming, lovely, open space in early morning and evening; with the eternal view beyond, this strange gentle quiet forest land, so marvelously peopled with modern palaces; so thoroughly subdued by American civilization; and yet still retaining the rare beauty of its natural state; this wonderful contrast of man and nature!

living-hall to the stair-hall, and from which the living-room is entered. This living-room is stained a yellowish color, with the windows at the left of the room glazed with green glass, shedding a soft and pleasant light over the entire apartment. There is a stone fireplace in the corner of the room which is built of large granite blocks, with the hearth laid with flat cobblestones laid in a cement mortar.

A short flight of steps from the living-room leads to the dining-room. It is stained a soft green color, and contains a large open fireplace with massive granite facings and a hearth of small cobblestones laid in cement mortar. The breakfast-room is separated from the dining-room by a cluster of birch logs for columns. This breakfast-room has a very attractive cabinet built in for china. The butler's pantry is fitted up with all the best modern conveniences. The kitchen, servants' hall, and all its necessary dependencies are placed in the basement under the breakfast and dining-rooms.

The den is the most attractive room in the building, and is placed over the living-hall. The walls are ceiled to the height of seven feet, and above which the studding and rafters are exposed to view. The space between the rafters and studs is filled in with birch sticks, cut and placed horizontally. The fireplace is built of rough brick, with the facings of brick carried up to the height of nine feet. The hearth, which is of flat cobblestones, is laid one foot above the floor level, and on either side of which are wooden desks built in.

Another short flight of steps leads to the chamber floor, which contains three bedrooms, one of which is stained an olive color, another yellow, and a third red. There is also a bathroom, which is fitted up complete in



THE FLOOR PLANS OF THE DOUGLASS SHERLEY HOUSE.

the tops of the door-frames. The mantel is modern, of wood, carved in panels. At one end is a large table; toward the other a rare old desk—scarcely shown in the illustration—with large carved figures. The dining-room, like the hall, is paneled throughout in wood; it contains a large carved stone mantel, of which an illustration is given. Just beyond it is the pantry, with a servants' dining-room beyond in the wing on this side; the corresponding wing on the library side of the house is filled with a suite of apartments, a sitting-room and bedrooms.

The archways enclosing the space within which are the stairs are richly carved, as are also the newel posts and handrail. The under-steps lead down to the Smoke Room. Whether one is addicted to the art to which this room is dedicated or not, one must feel its charm. The floor is of brick; the walls are of wood—unpaneled; the ceiling is beamed; the fireplace is encased within a gigantic stone framework that saw much use abroad before being finally set up here in this beautiful American home. And here in this room are gathered all sorts of trophies; the walls are thickly covered with prints and illustrations of hunting and horse life. A narrow shelf is crowded with jars, pots, steins, candlesticks, plates, knickknacks of all kinds in delightful profusion. There are deer heads and other relics of the chase, and whole strings of hornet nests—but no hornets—most suggestive of the strenuous outdoor life. It is a room of quiet simple charm; a room of the cultivated rural life; a room for a man to be happy in, and happy with his friends.

And thence to the garden. One has but to step out of the door to find one's self on one of the terraces. Tuxedo Park is itself one great garden, so beautiful are its lawns, so fine its roads, so clean its shrubbery; a hydrangea or two, or perhaps some other brightly

"BIRCH NEST," THE SUMMER HOME OF DOUGLASS SHERLEY, ESQ., AT BAR HARBOR, MAINE.

A very novel and interesting house at Bar Harbor, Maine, is that built for Douglass Sherley, Esq., which is illustrated on pages 36 and 37, and the plans of which are shown above. It is built of rock-faced boulders for the first story and chimneys, and birch logs for the second and third stories. The boulders for the stone-work have been carefully selected and have been placed in position with great care, so as to not show the mortar joints. The logs for the superstructure are of birch, and have been cut with the bark on, so as to present the rustic effect which the building now shows and to keep it in harmony with the stone work and the silvery gray shingled roof. The small lighted windows, the dormer windows, and the stone chimneys are all agreeable features. The main entrance to the estate is provided with gate posts formed of huge boulders, strapped together with iron bands, and ornamented with an anchor and chain which can be stretched across the opening to the entrance, the latter being provided with a cluster of farm lanterns.

The entrance porch is lighted by a nautical lantern, which is hung from an ornamental iron bracket, and the entrance door is formed of rough boards hung with large hinges of wrought iron, which are painted white, while the door is stained a soft brown color.

The interior is unique. The timber, which is rough hewn, is exposed, and the archways and openings between the various rooms in the first story are formed with a cluster of birch logs for columns. The living-hall is stained a soft greenish color, and contains an angle nook, the walls of which are of stone and exposed to view. The fireplace is built of Roman brick, while the hearth is formed of small cobblestones laid in cement mortar. A short flight of steps leads from the

every respect. The third floor contains ample storage space and the servant quarters. The house was designed and built under the direction of Mr. Sherley. Mr. Calvin H. Norris did the mason work and Mr. A. E. Lawrence the carpenter work.

THE SUMMER HOME OF E. P. MERWIN, ESQ., AT WOODMONT, CONN.

The summer home which is illustrated on page 34 has been erected for E. P. Merwin, Esq., at Woodmont, Conn. The balustrade to the piazza is built of rock-faced stone laid up at random. The building is built on cedar posts with stone footings, and is enclosed with narrow beaded stuff painted a stone gray. The superstructure is covered on the exterior with clapboards for the first story and shingles for the second and third stories. These shingles and clapboards are painted a deep red, and the trimmings are painted an ivory white. The roof is covered with shingles and is stained a moss green. Dimensions: Front, 33 ft.; side, 43 ft.; exclusive of piazza. Height of ceilings: First story, 9 ft.; second, 8 ft. 6 in.

The interior throughout is ceiled up with narrow beaded stuff, the walls and all partitions being so enclosed, while the floor joints are dressed and exposed to view. The living-room is provided with a paneled seat, and an open fireplace built of cobblestone laid up in red mortar, with the facings of the same rising up and supporting a mantel shelf; the hearth is laid with brick. The dining-room and staircase hall are separated by an archway, the latter containing an ornamental staircase rising from a broad platform, which forms an access to the laundry. The butler's closet and kitchen are fitted up complete with all the modern conveniences. The extension contains ample closet space, bath-box for salt-water bathing, and laundry.







horizon, the colossal statues which are framed by the long Colonnade of States. Nowhere in the world can be found a series of similar works of such size and dignity, and framed by such a noble architectural setting. They include distinctive and descriptive allegorical figures of the various States and Territories that have been formed from the Louisiana Purchase.

The distinguishing feature of these statues is their massive dignity. On the other hand, the decoration of the side cascades is distinguished by its grace and rich imagination. The central Festival Hall itself is also richly adorned with sculpture, and space alone forbids any detailed description. Above the large entrance gate of this Hall stands a group representing Apollo and the Muses, which is flanked by other groups representing The Dance and Music. Back of the Festival Hall, the Fine Arts building contains sculpture that was produced specially for the Fair in material that is fortunately more enduring than perishable staff and lathing, and there is much satisfaction in knowing that this building at least is to be permanent.

#### RESIDENCE OF THOMAS DOLIBER, ESQ., AT BROOKLINE, MASS.

The residence of Thomas Doliber, Esq., at Brookline, Mass., is the subject of the illustration on page 29. It is rustic in design and built of stone and shingles; a special scheme of construction was necessary because of the site, which included an outcrop of ledge at each end of the house and a very rapid falling away of the ground at the rear, thereby presenting the opportunity for an open basement story. The lot, moreover, is situated on a corner of two streets; the kitchen end and rear are in full view from the more important street, while a steep hill rises toward the street on the front. It was found necessary, therefore, to build a compact house, rather low, in order that the rear view might not present too high a building, perched as it is on a high ledge. The most natural material to use for the main part of the house was field stone of the same kind as the ledges; there being plenty of old stone walls in the vicinity. The immense boulders for this stonework have been selected with care, retaining the moss on the

The second floor contains four bedrooms, large closets, well fitted linen closet, bathroom, and a dressing-room provided with a lavatory and closet. The bathroom is furnished with porcelain fixtures and exposed nickelplated plumbing. All the bedrooms are placed so as to have windows on two sides of the room. The servant rooms and ample storage space are provided on the third floor. The laundry, cold storage room, fuel bins, and heating apparatus are placed in the cellar. Mr. J. Lovell Little, Jr., architect, 8 Beacon Street, Boston, Mass.

#### THE GARDEN OF MOSES TAYLOR, ESQ., AT MOUNT KISCO, N. Y.

THREE views of the beautiful garden attached to the country home of Moses Taylor, Esq., at Mount Kisco, N. Y., are given on page 35. These photographs illustrate the formal garden, the terrace, and the pergola.

Designed by Mr. Charles W. Leavitt, Jr., landscape architect, 15 Cortlandt Street, New York, these grounds furnish not only an interesting example of the work of



A SCREENED VERANDA TO THE RESIDENCE OF EDWARD T. BROWN, ESQ., ATLANTA, GA.

The sculptural treatment of the Central Festival Hall and of the three cascades aims to exemplify the natural jubilation of this country over the extension of its sway from the Atlantic to the Pacific. At the head of each side cascade is a large group, one typifying the Atlantic and the other the Pacific, and each cascade is profusely enriched with allegorical sculpture symbolical of the two oceans.

It is impossible to attempt any detailed description of the various subjects delineated, and the illustrations shown on the following page must be left to tell the story themselves.

#### A SCREENED VERANDA.

Very beautiful and attractive is the screened veranda of the residence of Edward T. Brown, Esq., at Atlanta, Ga., a photograph of which is reproduced above. The warm Southern climate gives a naturalness and vigor to the tropical plants with which it is adorned, and which give it its chief charm. It is pleasantly furnished, and forms an agreeable and delightful outdoor room. Mr. W. T. Downing, Equitable Building, Atlanta, Ga., was the architect.

same, and each was placed in position so as to avoid the appearance of the mortar joints so far as was possible. The second and third stories are covered with shingles and stained green, in harmony with the setting of the trees which surround the building. The exterior finish and trimmings are of cypress.

The interior is very simple in its treatment, and is trimmed with whitewood painted white. The hall is an attractive one, containing a quaint staircase of white paint treatment and a mahogany rail. To the left of the entrance is a den, with open fireplace, bookcases built in, etc. The living-room has an entrance to the porch, an open fireplace with tiled facings and hearth, and a mantel of Colonial style. Bookcases are built in on one side of the fireplace, and to the right of the room is an attractive paneled seat, over which there is a cluster of small latticed windows. The dining-room has also a door leading to the porch, and an open fireplace. The china closet is furnished with drawers, dressers, cupboards, bowl, etc., complete. The kitchen and its dependencies are fitted up complete with all the best modern conveniences, including range, store pantry, ice box, etc.

this fine artist in landscape, but constitute an interesting addition to the series of illustrations of notable American gardens which have long been a conspicuous feature of the BUILDING MONTHLY.

The formal garden is not large, but has been designed with fine taste, with a small pool and fountain in the center, and a pergola closing the vista and overlooking the valley below the house. The plan includes an interesting lay out of beds of flowers and shrubbery. It thus constitutes an excellent illustration of the fine effects in landscape gardening which can be accomplished within comparatively restricted areas. Mr. Taylor's garden, however, is quite ample for the house.

The terrace is very beautiful—an open space among the tree tops. The architect has wisely planned it on the simplest lines—a mere open space, whose size is enhanced by its situation and by the great trees which immediately surround it. The stately balustrade is properly broken and supported by pedestals and piers, and the single vases appropriately mark off the borders of the space toward the house. It is an excellent example of good results accomplished by direct means and in the most direct way.





Thomas Jefferson. By James E. Fraser.



"Mining Industry." By Charles J. Mulligan.



"Victory." By Evelyn B. Langman



Apotheosis of St. Louis on the Plaza of St. Louis.



"Signing the Treaty of Paris." By Karl Bitter.



Benjamin Franklin. By J. J. Boyle.



"Transportation by Rail." By Zolnay.



La Salle. By Gudebrod.



Napoleon. By J. Gleré





### THE CARE OF POLISHED FURNITURE.

THE care of furniture woods, points out a contemporary, is an interesting part of the intelligent house-keeper's duties. The daily light dusting must supplement the weekly rubbing if the "bloom," in this instance not desirable, is to be kept away. As a rule, the use of any restoratives is to be deprecated. Unless applied by a tireless arm and thoroughly rubbed in, and thereafter the piece of furniture kept in perfect polish by a daily rubbing, the oil is sure to form a crust sooner or later, which is gummy to the touch and not pleasing to the eye. New furniture should be kept as long as possible without the application of such restoratives. Furniture which has been finished with shellac or varnish, whether in glossy or dull finish, should never be cleansed with soap or water. Soap is made to cut oily substances, and in the performance of the service for which it is made eats the oil out of the waxed, oiled, or shellacked surface it touches, and destroys it. If an oil restorer seems, for any reason, to be necessary, raw linseed oil and turpentine in equal parts applied on a piece of cheese cloth will be found most often of service.

For carved portions which require daily attention, soft brushes such as are used for the cleansing of silver will be found to be the best agent. Brush the ornamented portions out thoroughly with a dry brush, and use a second for the real cleansing. This may be dipped in turpentine and used without fear of scratching the finish of the wood.

Where white spots appear on polished surfaces from the dropping of liquids or from heat, the immediate application of raw linseed oil will generally restore the color. The oil should be left on the affected spot for several hours, or over night. Alcohol will perform the service if applied at once to rosewood or highly finished mahogany. In each instance, when the color has returned, the spot should be repolished with a piece of cheese cloth moistened with turpentine.

### A PLEASANT HALL.

BRIGHT, sunny green and ivory white, with a few gilt ornaments, is, says a daily paper, one of the happiest schemes for the decoration of the narrow hall and stairs of the average city house. It lays no claim to a stately effect, but has a delightfully fresh, sparkling impression that even on a dull winter day gives one a cheery welcome. In an uptown house the hall and vestibule have both been treated in green and white, with the result that they look about twice as spacious as they did before. The vestibule has a dado painted ivory white, each wall is formed into a single panel, the surroundings painted white like the dado, the fillings distempered a light moss green. In the center of each panel is a graceful girandole (for electric light), in white wood and glass, which makes a charming decoration by day; and at night, the light coming from the sides has the happy effect of making the hall look its widest.

There is a white dado in the hall and staircase, and above it is hung a white-striped paper with an Empire wreath design in bright green. All the doors and woodwork are painted ivory white, and the floor and stairs are carpeted full width with moss green velvet pile.

The furniture in this hall is as light and dainty as possible, but dignified in design. There are a little half-circle Sheraton table and two slender chairs, with reed seats. Over the table is a mirror in a gilt frame in severely simple Adam style. Round the mirror are small prints grouped effectively on the wall, and a delicate pink azalea or some other flowering plant gives a delightful touch of color on the table. At the foot of the stairs the feathery fronds of a large fern, in a gilt basket, come in happily as a soft, light finish.

### A HOUSEHOLD POLISH.

THE question of polishes may be settled in fully as many ways. If equal parts of linseed oil, vinegar and alcohol are mixed well together, the result will be a very satisfactory sort of polish. This should be applied with one cloth, and another cloth used in giving the final rubbing. Very little of any furniture polish is enough, therefore be careful not to put on too much. Another simple polish is a mixture of turpentine and linseed oil in the proportion of one ounce of spirits of turpentine to three ounces of linseed oil. To keep the dining-room table in good, well-polished condition rub it once a week with a mixture of one ounce of spirits of turpentine and one ounce of olive oil, applying the polish with a piece of flannel cloth.

### RESIDENCE OF W. R. ROBESON, ESQ., AT SPRINGFIELD, MASS.

THE half-timbered and stone house illustrated on pages 30 and 31 was erected for W. R. Robeson, Esq., at Springfield, Mass. The terrace wall, underpinning, first story and chimneys are built of ashlar gray stone, of a light, soft gray color, while the second and third stories are beamed, forming panels, which are filled in with rough plaster cast finished with a stucco effect. This stucco is tinted a deep yellow, harmonizing nicely with the beams, which are stained a soft brown color. The roof is covered with shingles, and stained a moss green. Dimensions: Front, 65 ft. 8 in.; side, 35 ft. 9 in., not including terrace. Height of ceilings: Cellar, 7 ft. 6 in.; first story, 10 ft.; second, 9 ft.; third, 8 ft.

The front porch, which is enclosed on three sides, forms a vestibule, and is provided with seats on either side of the front door. The hall, which is a central one, is trimmed with white pine and treated with white enamel. It has a wooden cornice, and a staircase with fluted columns and carved caps; these columns, risers, and balusters are of white enamel, while the rail is of mahogany. The staircase rises up to a broad landing, provided with leaded stained glass windows, beneath which stairs lead down to the toilet room, which is fitted up complete. The living-room is trimmed with quartered oak, and has a low paneled wainscoting, bookcases built in, a massive beamed ceiling, a bay window, and a nook with paneled seats, and an open fireplace, furnished with tiled facings and a hearth, and a mantel of oak with shelf supported on columns. The dining-room and den are trimmed with quartered oak. The former has a massive beamed ceiling, a china closet in corner, and a buffet in nook, which are built in with leaded glass doors. The fireplace is of handsome design, and is provided with facings and a hearth of unglazed tile, and a Dutch mantel with a massive shelf supported on pilasters with carved caps. The den, or smoking-room, is located off the dining-room and is treated in a similar manner; it has a bay window with a cluster of leaded glass windows, which effectively lights the apartments. The butler's pantry is trimmed with natural hard pine, and is provided with butler's bowl, drawers, dressers, and cupboards complete. An ice box, with outside entrance thereto, is also built in. The kitchen is trimmed with similar pine, and is fitted up complete.

The second floor is trimmed with whitewood treated with white enamel. It contains four bedrooms, provided with well fitted up closets, studio, linen closet, and a bathroom; the latter is wainscoted with white enameled tile, and the floor is paved with unglazed tile. It is furnished with porcelain fixtures and exposed nickelplated plumbing. The servants' rooms and storerooms are located on the third floor. A cemented cellar contains a laundry, steam heater, cold storage, and fuel bins. Cost \$15,000 complete. Mr. G. Wood Taylor, architect, 425 Main Street, Springfield, Mass.

### RESIDENCE OF W. W. ORR, ESQ., AT SCARSDALE, N. Y.

THE residence illustrated on pages 28 and 39 was built for W. W. Orr, Esq., at Scarsdale, N. Y. The design is an interesting one from its many attractive features, including the two piazzas, which are happily placed at either end of the house, thus permitting plenty of sunlight into the living-room of the house. The columns and the first story are constructed of rock-faced granite laid up in a neat manner; the remainder of the building is covered with rough cast. The trimmings are stained a soft brown color and the sash are painted a cream white. The roof is covered with shingles and stained a dull green color. Dimensions: Front, 58 ft. 6 in.; side, 36 ft.; exclusive of piazzas. Height of ceilings: Cellar, 7 ft.; first story, 10 ft.; second, 9 ft.; third, 8 ft.

The entrance opens into the living-room, which takes in the center of the house, and is trimmed with chestnut finished in a soft brown color. It has a paneled wainscoting and a massive beamed ceiling. At either side of the entrance doorway there are paneled seats, over which there are clusters of small latticed windows. Opposite the entrance there is a large open fireplace, built of brick, with the facings extending to the ceiling, and a hearth of the same. A mantel shelf with a Dutch hood completes the fireplace. From this living-room the hall is reached, and it contains an ornamental staircase of chestnut, with turned newel posts, balusters, and rail. The library and dining-room, each on the opposite side of the house, are treated similarly to the living-room, and each has large open fireplace built of brick, with the facings and a hearth of the same, and mantel. The butler's pantry, kitchen, and its dependencies are furnished with all the conveniences.

The second floor contains an open hall, four bedrooms, linen closet, and two bathrooms, the latter furnished with porcelain fixtures and exposed nickelplated plumbing. The third floor contains the servant quarters and bath and trunk rooms. A cemented cellar contains a laundry, furnace, fuel rooms, cold storage. Mr. James Brite, architect, 111 Fifth Avenue, New York.



### A HUNDRED YEARS OF DAHLIAS.

EXACTLY one hundred years ago—on May 20, 1804, to be precise—the first dahlia seeds were received in London and the cultivation of this popular plant was begun in England. These seeds were sent to Mr. Buonianti, librarian at Kensington House, who grew the first plants for Lady Holland, says the *Gardeners' Chronicle*. Plants were raised and flowered the same year, the remainder of the seeds being sown under more favorable conditions in 1805, and seeds gathered from some of the plants. In 1806 Mr. Salisbury secured seeds of these, and, as it would appear, also Lee and Kennedy, of Hammersmith, who distributed plants in 1807. The great height of the plants exercised a deterrent effect on their cultivation, and after their novelty had worn off, they do not seem to have made much if any progress in popular esteem. Sabine relates how visitors to the Continent in 1814 were surprised to discover the beauties of the dahlia, with the result that tubers were imported thence the following winter, and a fresh impetus in consequence given to their cultivation; but he does not indicate that English sorts had been lost.

Another erroneous assumption regarding Continental varieties relates to the doubling of the flowers, which is said not to have occurred till 1814-15. Fortunately fairly full accounts of the first double flowers have been preserved. The first English-raised double appeared in Kensington Gardens in the year 1805, the color being "exceedingly pale." This and all the other seedlings were perpetuated. On the Continent there are records of double flowers even earlier, but the best account is of the dahlias of Count Letseur, the French Director of Gardens at St. Cloud, who in 1808 possessed three double varieties, in color respectively purple, rose, and buff. In the same year he had single varieties with striped and with shaded flowers. In Germany a Mr. Otto raised a double variety in 1809, the produce of a semi-double the previous year.

In "A Horticultural Tour," written to commemorate observations made on the Continent in 1817 by a committee of the Caledonian Horticultural Society, some fresh evidence of the evolution of the dahlia appears, and at the same time the continuity of the English strain is incidentally verified. This occurs in the description of a garden at Bruges, Belgium, where the dahlias are stated to have borne flowers "nearly double the size to which they usually attain in Scotland." The finest collection of dahlias they met with was in a Mr. Smeltz's garden in Antwerp. These originated from plants imported from Paris in 1809, the first seen in Antwerp, and from these improved forms had resulted, so that at the time of their visit Mr. Donckelaer, the gardener, possessed "no fewer than twenty different sorts with double flowers and varying in color; besides these he has ten varieties with semi-double flowers." Mr. Donckelaer sold his twenty doubles at £4 3s. 4d. the set in young plants, or £8 6s. 8d. old roots; and his sales appear to have extended beyond Holland. From about the year 1827 a great impetus was given to their cultivation; but the flowers at this time, with the exception of single varieties, had little in common with the flower as we now know it. They were called globe-flowered, aster-flowered, and some with broad guard petals and quilled centers, anemone-flowered. Then came a flat-petalled section, which shortly gave place to the show dahlia, of which "Springfield Rival," which was sold for ten guineas, was the forerunner. The Metropolitan and other florist societies were founded solely to exhibit dahlias. By 1840 the excitement of dahlia culture had died away, but while it lasted it rivaled that in Holland over the tulip.

### GARDEN CULT.

THERE is no doubt, says *Harper's Bazar*, that gardening is the fashion. Many women who do not care in the least for growing things are nevertheless discussing box borders and pergolas with conventional enthusiasm. But the woman who does really love flowers has also come into her own. The flower catalogues of to-day gather for her the treasures of old and new—the "bleeding heart" and Canterbury bells of her great-grandmother's garden and the latest Japanese primrose and iris; and the poorest soil and the bleakest exposure can not daunt the vigorous varieties that are cultivated for just such unpromising places.

PROGRESSIVE GARDENING is an apt term for gardens in which the progress of the seasons is chronicled by the progress of the plants. The end is beginning to appear, yet the later summer has its full of bloom, and the early autumn is a delight to the garden lover.





### HOW BALTIMORE WAS SAVED.

NOTWITHSTANDING that some time has elapsed since the great Baltimore fire, and that there have been several severe conflagrations since, expert reports continue to be published upon it. The subject is so large and so important that proper investigation requires considerable time.

One of the most exhaustive reports has been prepared by Mr. Alfred M. Quick, an engineer of Baltimore, and read at the convention of the American Water Works Association at its meeting in St. Louis.

In his paper Mr. Quick took up three points: 1. As to the adequacy of any water service to cope successfully with any such emergency. 2. As to the effectiveness of private fire service fixtures in protecting property. 3. As to the possibility of the waste from broken water pipes in buildings destroyed by fire temporarily crippling the water system.

Baltimore has two sources of supply, Jones' Falls and Gunpowder River, and a total available reservoir capacity of about 1,240,000,000 gallons. There are four service areas for distribution—the low, middle, high, and upper. In the low-service area, from tide-water up to elevation 50, are comprised most of the business and manufacturing districts. The middle-service area between elevations 50 and 100 comprises as many business as residential sections. The high-service area, between elevations 100 and 250, is entirely a residential section. Both high-service pumping stations are connected to the middle-service in dry seasons. The whole system is so arranged as to give a pressure of not less than forty pounds at any point, with the maximum domestic consumption drawing, and to allow at least 10,000 gallons a minute to be concentrated for fire service on any block in the congested portion of the city, without a serious reduction of pressure. In the burned district the distribution system was in fairly good shape. The extreme northwestern end of the district is in the middle-service area. The rest of the district is in the low-service area.

In the whole district are about 150 fire hydrants, including five with two steamer nozzles—making about fourteen to each mile of main street in the district. There are eleven hydrants within 200 feet of the Hurst building, a large, six-story, wholesale drygoods house at the southwest corner of Hopkins Place and German Street, where the fire started at 10:45 A. M. on Sunday, February 7; there are also twenty-two within 400 feet of the building. A smoke explosion in the Hurst establishment followed shortly after the arrival of the first piece of fire apparatus, and caused the flames to spread in all directions, even against the wind, which blew with considerable force.

Even with largely increased consumption, and with the outlet gates from the impounding reservoirs remaining as fixed to deliver only the ordinary domestic consumption, the storage reservoirs in the city, with twenty to twenty-five feet available depth, were drawn down only by from two to two and one-half feet; and that slight reduction of head could have been prevented by opening wider the gates at the impounding reservoir—a step which was not necessary. The water supply was, therefore, adequate to meet the extraordinary demands made upon it.

As to the fire department: Was there a sufficiency of apparatus? Several hours passed by before any outside help arrived, and practically the entire fire department of the city was on duty in the burned district or in putting out the numerous small fires started elsewhere by the sparks. As the hook and ladder and chemical companies took care of all fires in outlying districts, all of the fire engine companies were available for fighting the main fire. There were, therefore, about 280 men, including district chiefs, and all the fire engines—all fighting the main fire during the first few hours when it had a maximum front of not over three blocks. These engines, of course, were not all pumping continuously, as they had to shift about as the fire progressed; nor were they at all times supplying the same number of hose lines. It is estimated by the fire department that the average conditions amounted to about two continuous fire streams to each engine, which would make sixty-six fire streams in constant service. It would seem as if this force and service would have been sufficient, under ordinary conditions, to have brought under control a fire with no greater extent of front than this one had before the arrival of outside aid. In about three hours after the fire started the first outside fire company was in service, and from that time on other outside companies arrived and got into service very rapidly. As soon as the fire approached the wharves, the fireboat and the fire pump on the police

boat were also brought into service, with a total capacity of about 5,000 gallons a minute. It would seem, therefore, that a force of about 1,093 men, with fifty-seven fire engines and two fireboats, having a total capacity of very much over 50,000 gallons a minute, keeping in continuous service over 100 fire streams, would have been sufficient, under ordinary conditions, to have brought under control a fire, with a front of not over five blocks at its worst, before it could burn itself out at the water's edge. As to the efficiency of the firemen there could be no doubt.

Would the work of these men, with sufficient apparatus to cover the van and flanks of the fire line and to skirmish ahead of it, working intelligently and fearlessly, and yet failing to stop the fire before it died out, have been any more effective in stopping the flames, if in Baltimore there had been installed a high-pressure fire service system such as Philadelphia possesses, and completely covering the burned district? To the writer of the paper it seems that the greatest advantages for fire service that could have been claimed for it, as compared with what our ordinary water supply system offered, would be that more streams of a somewhat larger diameter and at a somewhat higher pressure would have been available for concentration at any one point; that these streams could have been more quickly brought into play; and that the same force of firemen could have covered a greater area or handled more streams at any one point.

As to the possibility of waste from broken water pipes in buildings destroyed by fire temporarily crippling the water service: There were about 1,400 separate buildings destroyed, nearly every one of which had one service connection, many had two and three, although quite a number of the small business places had service pipes of only one inch or less diameter. There were 523 whose connections were from one and one-half inch to six-inch—none were over six-inch. How many were broken, can not be ascertained, as hundreds still lie buried under the debris, and, in attempting to stop the leakage immediately after the fire, it was often impossible to get at the stops on the service pipes at the curbs on account of the debris, and, therefore, the mains had to be shut off in many of the streets. But hundreds of small service pipes and nearly all of the large service pipes were broken.

### CLEANING STONEMASONRY AND PRESSED BRICK FRONTS

STONEMASONRY, says the Painters' Magazine, is best cleaned of smoke as well as mold by applying with a long handled fiber brush a strong solution of caustic soda or pearl ash, which is permitted to remain about 15 minutes and is then thoroughly removed with one or more washes of clear water, for which purpose a hose and a stiff broom will do good service.

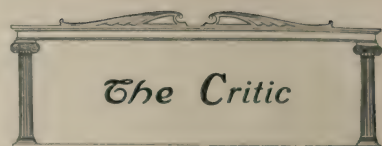
To clean finished marble, mix with enough water to make a creamy paste 5 pounds sal soda, 2½ pounds bolted whiting and 2½ parts powdered pumice. Apply this to the surface and rub with any suitable brush, then wash off with soap and water, and finally rinse.

Builders' acid, a mixture of muriatic acid and water in equal parts, is used to remove the spots of mortar on brickwork, and is also recommended for removing efflorescence on brick, but it is scarcely the proper means of renovating or removing discoloration from smoke or age. At any rate, the acid solution must be followed up by rinsing with clear water, or the bricks will darken to a great extent. A thorough scrubbing with soft soap and water, to which a little ammonia has been added, is the best cleanser for pressed brick. Final rinsing with clear water, of course, is necessary.

To make the brick look fresh and new, however, a wash of the following composition will be of service: One-half pound of good animal glue, soaked in water and then melted in water, say 8 gallons in all, to which add 1 ounce of bichromate of potash in solution and 10 pounds dark Venetian red and enough yellow ochre to give the desired effect. This is applied as thin as possible with a large wall brush.

### GIVING VALUE TO WASTE MATERIAL.

A few years ago, says the Canadian Architect, brick-makers in Toronto threw away as useless a considerable quantity of what are known as "clinker bricks," i. e., bricks uneven in color and shape and exhibiting protuberances on their surfaces. These peculiarities are due to the bricks being placed in the arch of the kiln where they are exposed to the greatest heat. An architect in looking one day at a pile of these refuse bricks thought he saw possibilities in them, and forthwith bought sufficient of them to build himself a house. The appearance of the house was pleasing and in contrast to the ordinary run of work. Other architects then saw a value in the clinker brick and began to use them. The demand so increased that the brickmakers themselves came to see the value of what they had been accustomed to regard as a waste product, and the price was advanced, until now "clinkers" bring two dollars per thousand more than standard first quality.



### RUSKIN AND ARCHITECTURE.

LAST month, in the Monthly Comment, some reference was made to the influence of John Ruskin on art. In this connection the following extracts from a recent lecture on "Ruskin and Architecture," by Prof. S. H. Capper, of Victoria University, Manchester, may be of interest.

Ruskin's attitude toward architecture, he said, was a special one, and his interest for architects and influence upon them was partly the goading of somewhat fierce antagonism, partly the more genial stimulus of sympathy and insight. He approached architecture not from the professional side nor from the historical side, but from the esthetic, the philosophical, and above all from the moral side. In the first place, architecture for him was reached through the sister arts of painting and sculpture. This was, in essence, a fairly common attitude; for most men the ornamental features of a building were its "art," but Ruskin assumed this as a reasoned position deliberately, and everywhere pushed it to its extreme logical conclusions.

In the second place, Ruskin's attitude to architecture was that of social reformer as well as art crusader. The "Stones of Venice" was written to show how the rise and fall of the Venetian builder's art depended on the moral or immoral temper of the state. There was an absolute right and wrong in art, and what was wrong in art was as wrong as a moral delinquency. Thirdly, Ruskin was preeminently the prophet-priest of nature. Nature was right, and the only right. To such a teacher, profoundly convinced of his gospel, yet crying as one in the wilderness, the mocking rejoinder of the Bohemian painter that "nature is very rarely right" artistically, and his graceless talk of "very foolish sunsets," must have seemed not merely unregenerate but blasphemous.

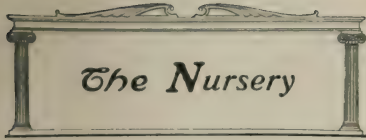
Ruskin's teaching, enforced under a literary form that was singularly masterly, could not but strongly influence contemporary architecture. On the whole, that influence, if somewhat narrowing in tendency, had been good; his constant appeal to the highest tribunal could not fail in itself to be stimulating, even to those who dissented from the judgment rendered. And Ruskin must always stand for a strongly persuasive influence toward "in everything doing our best." Taking the Pisan-Romanesque architecture as by Ruskin's dictum "amongst the noblest buildings in the world," the lecturer examined Pisa Cathedral from the architect's point of view and in the light of Ruskin's criticisms, illustrating the building and criticizing the criticisms, so as to understand the strength and weakness of Ruskin's position.

The doctrine that "architecture is ornament" was, considered from the architect's point of view, necessarily antagonistic; to an architect it was obviously false to define architecture as (in Ruskin's words) "merely the art of designing sculpture for a particular place and placing it there on the best principles of building"; and Ruskin himself admitted the architect's view in defining "dominion" as an intellectual power of architecture depending "for its dignity upon arrangement and government received from human mind." The obvious fallacies, also, due to the strenuous nature-cult of Ruskin's mind; the strained and equivocal analogies; above all, the perpetual reference of the pointed arch to leaf-forms, and the like, were touched upon and illustrated, while the extraordinary beauty of Ruskin's poetic sympathy with Nature in all her moods was fully recognized.

Ruskin's moral earnestness and high social ideals, however stimulating and ennobling in themselves when reserved for their proper place, became a source of weakness when urged irrelevantly in art, as when the right use of iron in construction was seriously discussed in the light of a phrase in the Book of Jeremiah. But the moral earnestness was at bottom the source of much of Ruskin's best influence, and one could not but be endlessly grateful for the eloquent sympathetic insight with which he urged so constantly the ennoblement of the handicraftsman and art-teller.

THE fault of the English school of art hitherto has been the too great attention to color, the too little attention to form. Owing to this it has gained somewhat in the powers of attraction, but lost in those of expression. Painting with the English has as yet taken the lead, while sculpture has been comparatively subordinate, and as a natural consequence the former has never risen to its highest powers, for whenever sculpture holds its proper rank it tends to elevate its sister art.





## The Nursery

### THE NEW NURSERY.

THE mother who has a nursery to refurnish and can suit her tastes without consulting her purse too closely has a delightful task before her. In these days, says a New York contemporary. This is the children's century, and nothing for their health or comfort, convenience or amusement, is forgotten by inventors and designers. The small boy and girl no longer have to risk breaking their necks by climbing up on top of the chiffonier to reach a coveted treasure placed there carelessly by nurse. The chiffonier is low and squat and easy to reach now. The tables are not just the height to bump one's head against now. They are low, solid tables, easy to put things on. All the furniture has grown short and broad for nursery purposes, and it has not lost a whit of its good looks in the process.

Furniture, designed expressly for children's use, means an astonishing improvement in the nursery in point of neatness—a pleasant, kindergarten way of inculcating love of order and regularity. Again, thanks to the readiness with which the little articles are handled, the small persons are able to help themselves more frequently, and consequently require less attention from mamma or nurse.

The beds in every case are single. Each child has his own, in accordance with the advice of authorities, who insist upon this regulation as necessary to good health and proper growth. The furniture is simply made and solid. Although plain, it is built along the artistic lines of the mission furniture in general. With the tiny washstand comes a pitcher and bowl set, decorated in amusing animal designs and calculated to delight any normal youngster of either sex.

The clothes tree, another article of the outfit, has fascinations enough of its own (in the way of various hooks, etc.) to induce the small boy or girl to hang up garments as a play, not a task. By the time the zest of the play has worn off neatness in this matter will have become a habit. The small bureau can be shared by two children, thanks to the generous supply of drawers. These are spacious enough to close away the different pieces of nursery wardrobe, and reachable for a tot of three or four years.

Some mothers who are fitting out nurseries in this way employ some one of the new wall papers, which come in designs especially adapted to children's rooms. Mother Goose people run riot over the four walls in an enchanting manner. Or the fairy tales are represented—the Sleeping Beauty, Red Riding Hood, and many other personages of those exciting times. Other mothers prefer to paper the room in the solid colors which combine so well with mission furniture and to supply the literary interest with good pictures, neatly framed, upon the walls.

### A MODEL NURSERY.

A MODEL nursery has the furniture of the nursery made of prairie grass, because it is most readily cleaned. The crib is a dainty creation, the crown-like canopy being hung with white point d'esprit lace over pink. There is a bassinette, white dresser, tiny rocker, toilet chair with a pneumatic cushion, nurse's sewing chair, with pockets for work and utensils in the arms, mother's rocker, high chair, writing desk and hospital table of white iron with heavy glass top. This table is desirable because it is not only readily cleaned, but it can be made antiseptic. On the table there is a little ice box for baby's exclusive use, and an ice cream freezer in which not more than two plates of the dainty can be frozen. The freezer can also be used for keeping articles of diet at a low temperature.

The nursing bottle is of a hygienic sort, the safety pins are nickelplated, with protected springs, and washes, toilet powders, witch hazel for the inevitable bumps, various foods and cooking utensils have all been remembered. A baby jumper that can readily be converted into a reclining chair stands at one end of the room, and near it are a sand tray and kindergarten outfit of practical games and toys. There are also a physical culture equipment for older children and books for childish taste.

The feeding utensils are all of silver—a tray easily fitted to chair or table, a mug, porringer, plate, curved handled baby spoon and the pusher. Four thermometers guard the temperature of the room, detect drafts about the floor and indicate the heat of the bath and milk. Cupboards draped with pretty curtains at each end of the room are intended for playthings.

The wall has a covering of burlap, which can be made germ proof by frequent paintings.



## Ventilation

### THE NEW YORK STATE LAW.

A LAW enacted by the last State legislature on the ventilation of public buildings, especially school houses, is the first general law on this important subject to be passed by any State. It took effect July 1. It provides that no school house shall hereafter be erected in any city of the third class or in any incorporated village or school district of this State, and no addition to a school building in any such place shall hereafter be erected, the cost of which shall exceed \$500, until the plans and specifications for the same shall have been submitted to the Commissioner of Education and his approval indorsed thereon. Such plans and specifications shall show in detail the ventilation, heating, and lighting of such buildings. Such Commissioner of Education shall not approve any plans for the erection of any school building or addition thereto unless the same shall provide at least fifteen square feet of floor space and 200 cubic feet of air space for each pupil to be accommodated in each study or recitation room therein, and no such plans shall be approved by him unless provision is made therein assuring at least 30 cubic feet of pure air every minute per pupil, and the facilities for exhausting the foul or vitiated air there shall be positive and independent of atmospheric changes. No tax voted by a district meeting or other competent authority in any such city, village or school district exceeding the sum of \$500 shall be levied by the trustees until the Commissioner of Education shall certify that the plans and specifications for the same comply with the provisions of this act. All school houses for which plans and detailed statements shall be filed and approved, as required by this act, shall have all halls, doors, stairways, seats, passageways and aisles, and all lighting and heating appliances and apparatus, arranged to facilitate egress in case of fire or accident, and to afford the requisite and proper accommodations for public protection in such cases. All exit doors shall open outwardly, and shall, if double doors be used, fasten with movable bolts operated simultaneously by one handle from the inner face of the door. No staircase shall be constructed with wider steps in lieu of a platform, but shall be constructed with straight runs, changes in directions being made by platforms. No doors shall open immediately upon a flight of stairs, but a landing at least the width of the door shall be provided between such stairs and such doorway.

### THE VENTILATION OF DWELLING HOUSES.

IDEAL house-ventilation is defined by an English writer as being: 1. That none of the air within the house may be allowed to be respired or used more than once—never a second time or over again; that, having been once used, it shall be abstracted, and thrown back into the outer air, and be replaced with fresh direct from outside. 2. That fresh air shall be supplied in sufficient quantity to fully replace the air abstracted. 3. That this abstraction and supply shall be effected in such a manner that the occupants of the room will not feel the current or movement; that is, so as not to be felt as a draft. 4. That the temperature of the incoming air shall be so under control that it may be raised in cold weather and lowered in hot weather to any degree desired. 5. That the inlets and outlets shall be easily adjustable, by slides or valves. 6. That the provisions shall be such that the air may be allowed to pass through the house or rooms in quite a rush, or may be altogether arrested at will. And 7. That the whole house shall be included in the scheme, the lobbies as well as the rooms.

Such is ideal house-ventilation. Unfortunately, its provision is not free from complication, and it involves some expense—more of both, in fact, than most people care to incur. It is therefore seldom attempted, no other provision being made than for opening the windows; and it is erroneously supposed that on opening the windows at the top and bottom the air will come in at the bottom and go out at the top; but it will, under ordinary circumstances, come in at both, the two forming only one divided inlet. The inside air being less cold, and therefore less heavy, is pushed out of the room up the chimney, and into the lobby by the colder, and therefore heavier, air coming in through the window openings; and, unfortunately, that coming in through the upper openings tends to fall on to the heads of the occupants, and that coming in through the lower to pass to their feet. The consequence is that during use of rooms the windows are usually closed, and there is no ventilation at all, so that the rooms become hot and stuffy.



## Cooling Notes

### A PRACTICAL EXAMPLE.

A SYSTEM of cooling apparatus, especially designed for use in restaurants, work-rooms, hospitals, and apartments, maintaining a temperature of 70 degrees, although the outside temperature may be 85 or 90, has recently been put to practical test in Boston.

The essential feature of the system, which is described in the Metal Worker, is known as the regenerator, which consists of a series of cylinders enveloping each other, that may be suspended from the ceiling, supported on brackets or by means of a pedestal. These cylinders are made in different diameters and with corresponding difference in cooling capacity, the 12-inch regenerator having a capacity for cooling about 800 cubic feet of air per minute, while the 18-inch regenerator has a capacity for cooling 2,500 cubic feet of air per minute. In construction the regenerator consists of an outer cylinder inclosing a nest of other cylinders open at the top to allow a free entrance of the heated air near the ceiling of the room in which it is placed. There are spaces between the different cylinders through which the air can readily pass. At the base is a specially designed fan of high efficiency operated by the cold water which circulates through the cylinders. In operation the cold water is discharged on the open cylinders at the top, coating each side of the cylinder as it descends, and by the rotation of the fan the air in the building to be cooled is drawn in from the top of the room between the cylinders, passing down until it reaches the bottom, where it is separated from the water and discharged into the room at about the same temperature as the cold water to do its work of cooling. In this cooling process the excessive humidity which the hot air contains is absorbed by the cold water and the vitiated humid atmosphere is reduced in its temperature, while the dust and other impurities of every description are absorbed.

The air, regenerated by its passage through the apparatus, is discharged at a velocity that gives the regenerator a capacity for cooling about 20 degrees 800 cubic feet of air per minute. A building that is properly insulated to prevent the loss of heat in the winter, or overheating in the summer, will, to a large extent, govern the amount of ice required in the cooling tanks to effect a satisfactory reduction in temperature. It is economy to use double windows, and, where they are exposed to the sun, have them shaded with awnings. The amount of ice used in the work is also affected by the number of occupants of the factory or customers of the store. It has been demonstrated by a practical test of the regenerator, in a four days' trial, that it was possible to reduce and maintain a temperature of from 68½ to 70 degrees with the front door wide open when the outdoor temperature was 95 degrees, the only effect being that a greater consumption of ice was required than if the doors had been kept closed.

The average cost of operation for the four days in question was \$3.56 a day for ice and power, with ice at \$3 a ton.

### A NEW JERSEY EXPERIMENT.

A CORRESPONDENT of a technical paper describes some experiments on a large scale conducted during last summer in cooling a store in Paterson, N. J. An apparatus of extreme compactness, consisting of one or more segments, each of which represents an actual cooling (radiating) surface of 275 square feet with but 6 cubic feet of space-displacement, cools the air driven therethrough by a blower, before delivering it to the locality to be cooled; where cold spring water is at disposal, this will be sufficient to assure satisfactory results.

Any premises provided with such a cooling plant may with advantage be heated in winter by the very same means, i. e., the same apparatus and the same ducts, adding only a simple hot water heater and omitting the use of a fan. Such a system of heating would then coincide in principle with the well known hot air furnace heating, however, without the latter's drawbacks of possibly overheating the air or deteriorating it in consequence of a leak in the furnace, since it is the hot water that heats the air.

By means of the mentioned special apparatus and its accessories a fan and the hot water heater, a system of combined cooling, heating, and ventilating is established which, wherever the best of hygienic conditions are cared for or demanded, is unequalled, supplying an interior continuously with pure, dust and odor-free air of a temperature that insures perfect comfort both in winter and during the hot summer months.



## The Kitchen

### SCIENCE IN THE KITCHEN.

A HANDY kitchen thermometer is now among the supplies for the use of cooks of scientific mind and for novices as well, says the New York Sun. With the thermometer's aid the time exact for slipping a cake into the oven can be told. The precise moment can be determined when the eggs should be intrusted to the water, and one can ascertain whether or not the heat is too great for the pot roast or the delicate stew. Women who are cooks and mistresses combined praise the kitchen thermometer as saving them from mistakes and embarrassment. A kitchen microscope is also among the new devices. In the washing of salads, of spinach and other vegetables, of grapes and various other fruits, and in deciding as to the state of meats and what process of cooking they had best be subjected to, the microscope does good service. Especially does the housekeeper who is a pure food advocate prize its aid.

The household indicator is another convenience. It is a tally board that acts as a messenger between the cook and the grocer's boy. On the indicator is listed the entire category of supplies needed in kitchen matters, from matches, salt, soap, to eggs, butter, bacon and flour. There are smooth little pegs to be fitted to the small holes opposite each item on the list. If the cook when preparing a meal finds that the salt is low, she runs to the indicator and sticks a peg to indicate the quantity of salt to be ordered. She also sets a peg opposite each item as the various needs crop up in a day's work. Work over, she just puts the indicator on the table where the boy can see it when he comes, and is free from any more bother in the matter. Flat dwellers put the handy indicator outside the door and then are free to go to walk or shop, knowing that the supplies will be forthcoming.

### A GLAZED STONEWARE FOOD CLOSET.

A GLAZED stoneware food closet or locker has recently been introduced in England for artisans' dwellings, but appears available for houses of any cost. The door, of wood, aluminum or enamel, is provided with a perforated zinc panel which, together with a hole in the outer wall covered by a grid, secures all the necessary ventilation. Strips on the inside of the closet support a suitable shelf of enameled metal or hard wood.

### A MEXICAN KITCHEN.

THE first thing that attracts the eye of the foreigner on entering the Mexican kitchen, says the Housekeeper, is the brasero. This is a substitute for our ranges and cookstoves, a huge affair that extends across one side of the room. Sometimes, especially in the kitchens of the hotels, there are as many as four braseros, one traversing the length of each wall, and, as the kitchen is usually square they are of equal length.

The brasero looks like an ordinary work bench made of adobe brick, with several openings in the top which are provided with grates to hold the charcoal used in cooking. Primitive dampers are fashioned by openings along the front, which afford a good draft, for they are so constructed that they lead up to the fire. The shelves and sides of the brasero fairly groan with their load of cooking utensils of various forms, the work of the native Indians. Some of these an American housewife would consider mere ornaments, as she could ascribe for them no possible use, but the Mexican cook requires more utensils than her American sister, and every vessel has its use. And what a vast amount of dish-washing this necessitates!

All the baking is done in covered pans, and, of course, the Mexican cook, even were she familiar with the process, could not succeed with flaky, light American biscuits, for the brasero is always too hot or too cold. Every kitchen, except in the homes of the very poor, is provided with a sink and a big draining board. Many of the quaint pieces of pottery reposing upon the pantry shelf and regarded as cheap articles of use only, would be hailed with delight as a priceless ornament by the American housewife. Sometimes the poor pawn these beautiful articles, which come to occupy honored places on the mantels and sideboards of aristocratic American homes.

### MODEL KITCHENS.

THE model kitchen has become a well recognized feature of the department store. All sorts of new kitchen helps are gathered here. That the attendants are not always fully informed as to the uses of the various utensils is a matter of regret, but perhaps that will be bettered in time.

## New Building Patents

The following list of New Patents relating to Building and Sanitary Science is prepared expressly for the SCIENTIFIC AMERICAN BUILDING MONTHLY by MUNN & CO., Solicitors of American and Foreign Patents.

A PRINTED COPY of the specification and drawing of any patent in this list, or any patent in print issued since 1863, will be furnished from this office for 10 cents, if exact date or number is furnished. Remit to MUNN & CO., 361 Broadway, New York.

### BRICK, STONE, AND TILE.

BUILDING BLOCK.	W. Porten, St. Paul, Minn.	June 7.	762,193
BUILDING BLOCK.	W. Porten, St. Paul, Minn.	June 7.	762,251
TILING FOR FLOORS.	J. H. Munro, New York, N. Y.	June 14.	762,428
BUILDING WALL AND BLOCKS FOR FORMING SAME.	W. Whitmore, Colon, Mich.	June 28.	763,945

### CARPENTRY.

WINDOW FRAME AND SASH.	G. Wahlstrom, Des Moines, Iowa.	June 7.	761,733
CASEMENT STAY FOR WINDOWS.	C. J. Fooks, Ealing, England.	June 14.	762,296
WINDOW SASH CASING.	H. Boydmann, Washington, D. C.	June 14.	762,464
WINDOW FRAME.	N. E. Parish, Cleveland, Ohio.	June 14.	762,651
WINDOW.	O. Frotscher, Philadelphia, Pa.	June 21.	762,896
WINDOW FRAME.	H. T. Whitenack, Witt, Ill.	June 21.	763,234
WINDOW SASH.	H. D. Anpke, Sharpsburg, Pa.	June 21.	763,240
WINDOW FRAME.	H. L. Hoyer, Butte, Mont.	June 21.	763,287
HORIZONTALLY PIVOTED WINDOW.	H. E. Essig, Canton, Ohio.	June 28.	763,471
WINDOW SASH.	A. C. Goddard, Woodcliff, N. J.	June 28.	763,747

### CONSTRUCTION.

CHIMNEY.	J. Lorenz, Chicago, Ill.	June 7.	761,894
METALLIC ROOFING.	J. Williams, Edeau, Ind.	June 7.	762,220
REINFORCED CONCRETE CONSTRUCTION.	H. Kampmann, Baltimore, Md.	June 14.	762,479
REINFORCED TERRA COTTA PARTITION.	P. H. Bevier, New York, N. Y.	June 14.	762,678
MANTEL.	F. A. Broadbent, Baltimore, Md.	June 14.	762,983
SEAM FOR METALLIC ROOFING.	F. J. Ploch, Provo, Utah.	June 21.	762,939
MEANS FOR FLASHING FIRE WALLS.	W. R. Rose, Washington, D. C.	June 21.	762,945
TWO STORY TENEMENT.	N. R. Grimm, Washington, D. C.	June 21.	763,279
WINDOW CONSTRUCTION.	B. J. Hausfeld, Cincinnati, Ohio.	June 28.	763,484
WINDOW CONSTRUCTION.	B. H. Linsker, Cincinnati, Ohio.	June 28.	763,496
PANEL FOR METAL CEILINGS.	F. G. Caldwell, Wheeling, W. Va.	June 28.	763,852

### ELEVATORS.

PNEUMATIC ELEVATOR.	G. F. Steedman, St. Louis, Mo.	June 7.	761,790
ELEVATOR SAFETY DEVICE.	F. Kocab, Allegheny, Pa.	July 7.	762,240
SAFETY DEVICE FOR ELEVATORS.	M. W. Sins, Baltimore, Md.	June 14.	762,267
SAFETY APPLIANCES FOR ELEVATORS.	A. Froussard, St. Louis, Mo.	June 14.	762,398
SAFETY DEVICE FOR ELEVATORS.	P. Benning, Columbus, Ohio.	June 14.	762,612
DRIVING GEARING FOR ELEVATORS.	E. M. Fraser, Yonkers, N. Y.	June 14.	762,698
ELEVATOR SAFETY DEVICE.	P. Bremer, Coulter, Pa.	June 31.	763,144

### FIREPROOFING AND FIRE EXTINGUISHMENT.

FIREPROOF CONSTRUCTION.	G. Downman, Atlanta, Ga.	June 14.	762,472
FIREPROOF FLOOR AND CEILING CONSTRUCTION.	T. O'Shea, Chicago, Ill.	June 14.	762,552
FIRE SHUTTER.	F. W. Enders, Columbus, Ohio.	June 28.	763,381
FIREPROOF CEILING.	H. Schmidt, Hanover, Germany.	June 28.	763,513
FIREPROOF FLOOR AND CEILING CONSTRUCTION.	Oliver & Oliver, New York, N. Y.	June 28.	763,690

### HARDWARE.

LOCK.	J. Lyon, Dayton, Ohio.	June 7.	761,843
LOCK.	H. Hartman, Allegheny, Pa.	July 7.	762,051
FASTENERS FOR SHUTTERS.	J. A. Beck, Feilding, N. Z.	June 14.	762,376
SASH LOCK.	J. H. Moskow, San Francisco, Cal.	June 14.	762,595
WINDOW LOCK.	W. E. Conner, Brook Park, Pa.	June 14.	762,616
WINDOW LOCK.	J. T. Myers, Cummerville, Pa.	June 14.	762,648
SASH LOCK.	T. S. Aldrich, Columbus, Ohio.	June 14.	762,856
HINGE.	B. F. Burtis, Gravesend Beach, N. Y.	June 21.	763,236
SASH CORD GUIDE.	W. R. Fox, Grand Rapids, Mich.	June 28.	763,474
SASH PULLEY.	J. Duffy, Grand Rapids, Mich.	June 28.	763,546
SASH LOCK.	C. Johnson, Chicago, Ill.	June 28.	763,610
SASH FASTENER.	M. L. Gordon, Los Angeles, Cal.	June 28.	763,879

### HEATING AND VENTILATING.

VENTILATOR.	S. H. Jacobson, New York, N. Y.	June 7.	761,680
VENTILATING WALL CONSTRUCTION.	J. W. Redfern, Owen Sound, Can.	June 7.	761,711
MEANS FOR HEATING AND VENTILATING BUILDINGS.	J. Friedlander, Grand Forks, N. D.	June 7.	761,953
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RADIATOR.	J. W. Brown, Latrobe, Pa.	June 28.	763,591
HEATING APPARATUS.	J. Cooper, De Moines, Iowa.	June 28.	763,724

### MISCELLANEOUS.

SCAFFOLD.	C. Foster, Douglass, N. Y.	June 21.	763,274
METHOD OF ERECTING SCAFFOLDS.	C. Foster, Douglass, N. Y.	June 21.	763,275

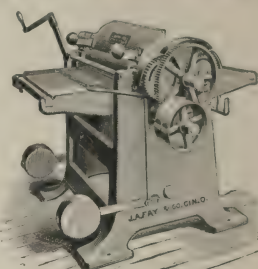
### PLUMBING.

WATER CLOSET TANK MECHANISM.	J. M. Burt, Norwalk, Conn.	June 7.	761,758
FLUSH OUTLET FOR CLOSETS.	E. C. Coffey, Mass.	June 7.	761,762
PUMP WATER CLOSET.	L. M. Hooper, Rutherford, N. J.	June 7.	762,059
FLUSH TANK.	Henn & Henn, Hamilton, Ohio.	June 14.	762,405
COMBINATORY TOILET APPARATUS.	H. S. Hale, Philadelphia, Pa.	June 21.	763,178
WATER CLOSET.	Bender & Schlotter, New Rochelle, N. Y.	June 21.	763,246
WATER CLOSET.	L. M. Hooper, Rutherford, N. J.	June 28.	763,561

## Publishers' Department

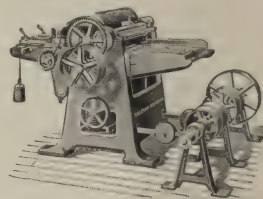
### IMPROVED WOOD WORKING MACHINERY.

KNOWING that our readers are always glad to see new machines brought out from time to time by enterprising manufacturers of wood working machinery, we are pleased to show one that seems to have the necessary advantages to insure its doing good and



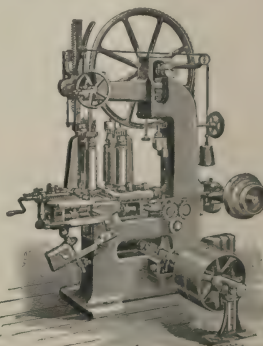
No. 2. SURFACE PLANER.

reliable work. The following points are embodied in its construction: The planer is especially designed for general work in nearly every line of small wood working shops that do planing, and it will, with very little power, surface in a superior way all kinds of soft or hard woods. It is made in size to plane to twenty-four inches wide and from one-sixteenth to six inches thick. Pressure bars are fitted on each side of the cylinder for planing thin and short stuff, and also for producing a fine surface on the material. The frame is solid, insuring great strength and solidity, and the crucible steel cylinder has lips to break the chips. The bed is raised and lowered by a crank and rod convenient to the operator, and is connected by gears to raising



No. 2. PLANER, MATCHER, AND MOLDER.

screws for different thicknesses of work. The bed is hung between gibs in the frame, thus accurately taking up all wear. The cutter head and feed rolls hang in the frame, preserving the same relative position with the bed plate—which is a great improvement over old methods of making independent adjustments. The feeding rolls are large, strongly geared, and the first pair heavily weighted. The long bed has friction rolls, and all parts are thoroughly braced, planed, and bolted. The next illustration shows a medium-priced planer, matcher, and molder, especially designed for doing light planing, matching, and molding in small factories, shops, and mills that do that sort of work, and who thus have good use for such a tool. It planes up



No. 11. BAND RE-SAW.

to twenty-four and one-quarter inches wide, one-eighth to six inches thick, and tongues and grooves flooring, ceiling, etc., to twelve inches wide, or less, and is also particularly well suited for beading, working deep or



patent siding, partition stuff, carpenter's moldings, casing, baseboards, etc.

The feed has four steel rolls and is particularly well geared, insuring a good, strong feed, which can be instantly started and stopped, while the feed roll is held down by weights to give different pressures. A pressure bar on each side of the knife prevents any tearing, and enables the machine to do fine, smooth planing.

The matcher head moves up and down with the bed, thus saving much time and labor in making separate adjustments. Taken altogether, this machine has many devices for making quick and accurate adjustments, and producing the work to advantage in quality and large amount, and it will no doubt meet with favor wherever used. The next engraving shows a band re-sawing machine, which is new in design and built on new principles. It was patented February 7, 1900, and March 10, 1903, and is meeting with favor wherever in use, and for a machine of medium capacity, intended for general re-sawing, it is easily one of the best yet built. Some of its most salient points are worth careful consideration. The upper wheel is mounted on a heavy column, reducing all tendency to vibration and insuring fast speed. The improved tension on the blade is very sensitive and reliable, and is uniform on all occasions. The lower wheel is solid, thus lessening circulation of dust, increasing momentum, and preventing the upper wheel from overrunning it. The upper wheel has a lateral adjustment to keep the saw on its proper path without stopping the machine. The feed is variable and built on an entirely original principle, and rolls will open to receive stock twenty-four inches wide and eight inches thick, and are self-centering; the inside rolls can be locked in position, and the outside ones instantly moved to or from the saw by lever, and are gaged by an accurate quadrant. The rolls can be tilted twelve degrees and clamped for angle work. The makers of these improved machines, J. A. Fay & Egan Co., Nos. 209-223 West Front Street, Cincinnati, Ohio, will be pleased to furnish any readers with details and engravings showing them in detail. They will also send free to those interested their new catalogue of wood working machinery.

#### ELECTRICALLY WELDED FABRIC.

In the wide-reaching empire of our building industries, fireproofing has been studied from as many points and treated with as great a range of materials as any department in architecture. The result is that any mark of incompleteness relating to the method or substance employed in the safeguarding of structures, is bound to be productive of earnest research and much improvement. Progress has come from stricter insight into needs of protection, stimulated by the greater cost of material used and increased wealth to be cared for in modern construction. The advance made in the past few years by the use of concrete, reinforced with steel, has been so rapid, so many of the greatest building operations have been carried to completion in which this class of fireproofing, as erected by several companies, has played such a prominent part, that at the present time a similar system, after being tested in the most scientific manner, and found not wanting in fire-resisting qualities and load-carrying capacity, is readily admitted to the specifications of the most eminent architects and engineers. The advantage of concrete construction of stone or cinder concrete reinforced with one or other form of steel embedded in the concrete, is no longer questioned. The system we refer to belongs to The Clinton Wire Cloth Company, and its success rests on the fact that the electrically welded fabric establishes a continuous bond in the concrete and creates an unusually monolithic construction. Clinton welded fabric, made from six to ten gage drawn steel wire, galvanized or plain, can be laid in lengths up to three hundred feet, thereby forming a continuous bond for that distance. Heavier gage wire can be laid in lengths up to sixty feet, and where connected can be locked or hooked to the next sheet where a building requires more than one sheet in length. The method is in sharp contrast with a system where lapped ends of steel fabric are necessary every few feet. By reason of the continuous bond, no entire collapse of any arch erected with electrically welded fabric can occur unless the weight imposed on the arch is sufficient to strain and break all the wires. For roofs of great length this feature is ideal, as no better roof can be erected than by using the concrete slab knit together for great lengths with a steel fabric. Attention is invited of engineers to the ease and accuracy with which the

heavier grades of the fabric can be used in the erection of wide span arches of from ten to fifteen feet; also for the floors of bridges, construction of tunnels, culverts, shafts, sewers, retaining walls, footings, coal and ash pockets, etc. A serious objection, where expensive decorations are used in fireproof buildings, arises from the discoloring of walls and ceilings in some constructions. This never occurs where plastering is done on wire lath for ceilings and hollow or solid partitions and wall furrings. The illustration presented herewith shows the establishment of a continuous bond. In its handsome pictorial and technical catalogue the company makes very plain the different classes of construction and the methods of executing the same. Partitions, hollow partitions, iron furring, and metal lathing, column guards, bridge walls, exterior walls, horizontal sections through walls, air ducts, sidewalks, floors, truss roofs, lath and plaster, solid filled partitions, etc., are all specifically written up and illustrated in this latest edition. The company has offices in Clinton, Boston, Chicago, San Francisco, and in New York at No. 150 Nassau Street; Albert Oliver, Eastern Representative. The mills are located in Clinton, Mass.

#### HOT WATER HEATER.

The permanent claims of efficiency in various directions in relation to the heating of buildings are so well established by the Humber heater throughout the country that it needs but a fair introduction abroad to make it a valuable addition to our export trade. To the steam fitter or user here it hardly needs one. The Humber



SECTIONAL VIEW OF THE HUMBER HEATER.

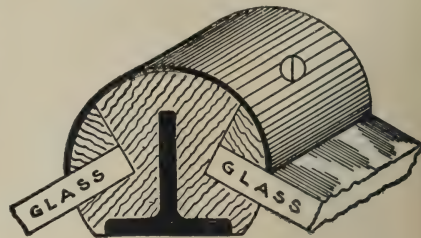
is a horizontal sectional boiler, and a sectional view is shown herewith. The waterways leading from one section to another are at the rear of the heater, and are built up with it. All the joints and packing are entirely beyond the fire line, which prevents any action of the fire upon the packing. This design of water connection necessitates only one joint for each section, which lessens the number of joints, thereby decreasing the possibility of a leak. Clean-out doors are placed at proper places, enabling the operator to clean every section with no trouble or annoyance, by means of special brushes which are furnished with each heater. The draft damper in ash-pit door being a lift door, is so arranged that it may be operated by an automatic regulator when desired. The construction of the sections alternates, and the smoke flues are so arranged that the gases, in passing from the firepot to the smoke outlet, must come in contact with every inch of heating surface. Grate bars may be removed or replaced without tearing down the heater. Humber heaters are the only ones having this improvement. This boiler is made for both hard and soft coal. The hard coal sections consist of a large single smoke flue in the center, and the next section has a number of small ones, alternating until the top is reached. For soft coal the same section with a center flue is used for the first section, while the alternate sections have several large flues, oval shaped and beveled, arranged to increase the draft and preventing liability of clogging with soot. The grate and flue surfaces are well proportioned. The "Humber Hot Water Heater" is manufactured by The J. H. McLain Company, Canton, Ohio.

#### A GREAT RUBBER STORE.

The well known manufacturers of vulcanized rubber, The New York Belting and Packing Company, Ltd., have removed to the new store at Nos. 91-93 Chambers Street, New York, N. Y. Judging by the way it fitted up, and the advantageous spacing allowed by the immense area of its basement and five stories, the positive rank of this establishment, among unsurpassed emporiums for the stocking and selling of goods, will be unchallenged. The floors are fifty by two hundred feet, and extend through the whole block, the north end comprising Nos. 73-75 Reade Street. The company, in arranging its new offices and show rooms, has specially fitted up a room, equipping it with corresponding facilities, telephone service, etc., for the convenience of friends who wish to make their headquarters at this centrally located building.

#### CORNER POSTS AND TRANSOM BARS.

An improved system of setting glass, that of using the Coulson patent corner post and bar, is being extensively introduced by architects and builders. They, as well as the plate glass insurance companies, advocate the general use of the patents for the purpose of securing better effects in designing fronts with lighter divisions of glass, and for lessening the waste of breakage and the expense and loss of time in resetting this material. The posts and bars combine for store fronts the special advantages of minimum obstruction to light, greatest strength for holding large windows safely, and



CORNER POST.

least danger and trouble in replacing large plates. The full size sectional view shown in the accompanying rough illustration is made of a narrow, light piece of soft wood, into a groove in the back of which the angle of a steel T-bar is sunk, and firmly fastened by lag screws. The several pieces of glass being set and firmly secured by wooden stops, the advantage of an all-wood bearing for the heavy plates is secured by the rigidity of the T-bar added. The face of the posts and bars, together with the wood stops, which altogether make up the outside, may be covered with polished brass, sheet aluminum, oxidized, nickelplate, or copper sheathing, screwed to the wood after the glass is set, and when finished, presents the neat and light appearance of a single metal or wood strip between the several plates of the window. In case of accident, the saving in cost and trouble is apparent. The base of the T being on the inside of the window, the glass must always be set and removed from the front or outside of the building, and a large plate can easily be taken out and the new one placed in position without removing or disturbing an elaborately trimmed window, or risking the marring of fixtures. The ease, safety, and economy of resetting windows where the post and bar are used will commend them to the storekeeper, the owner, and the insurance companies. The sole owners and manufacturers of the corner post, transom bar, division bar, and quarter rounds, are J. W. Coulson & Company, Nos. 96-98 North Third Street, Columbus, Ohio. With this firm plate glass and painting are a specialty.

#### PURE FLAKE GRAPHITE.

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CONTINUOUS BOND.



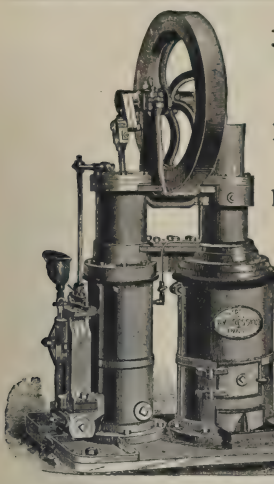
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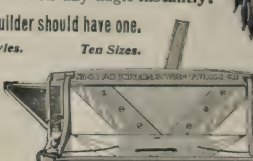
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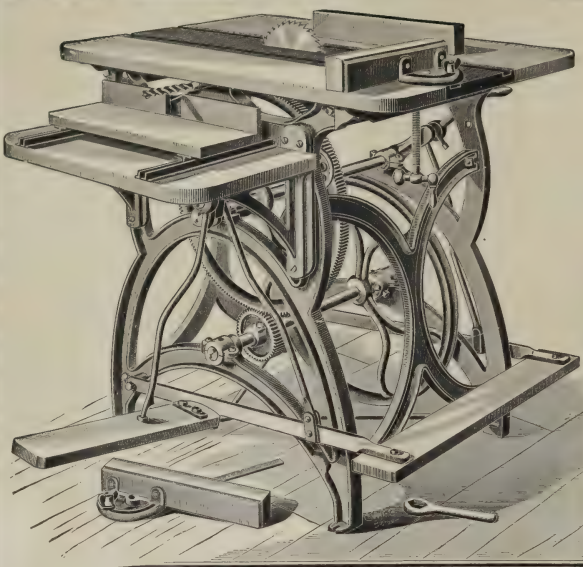
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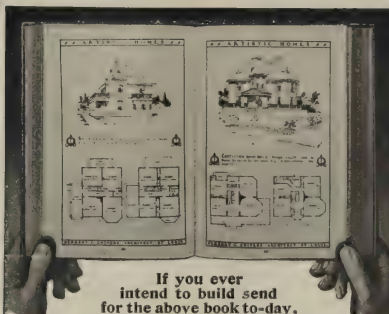
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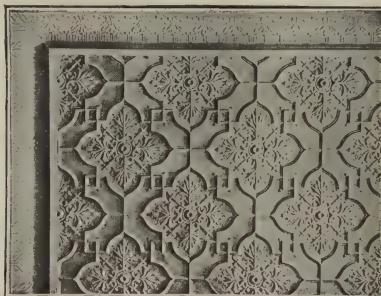
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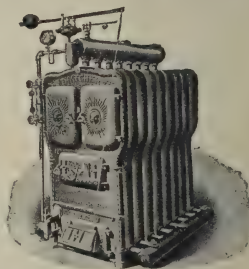
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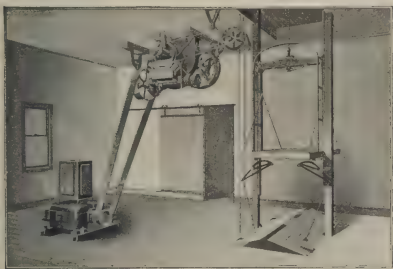
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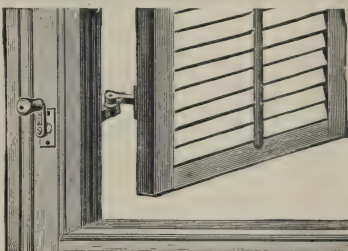


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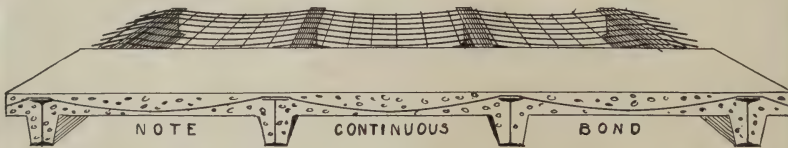


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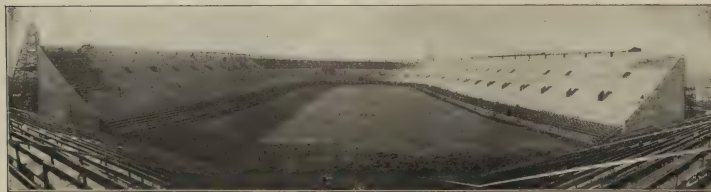
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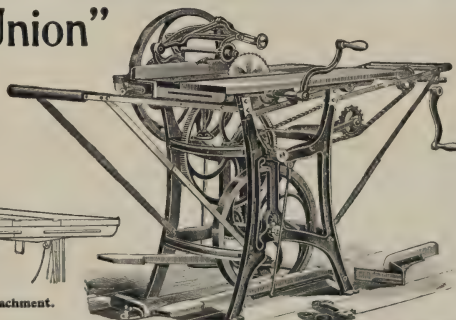
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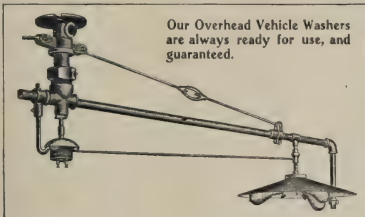
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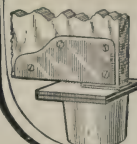
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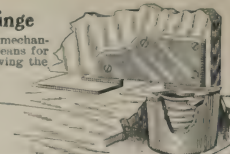
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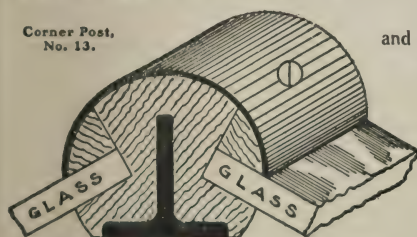
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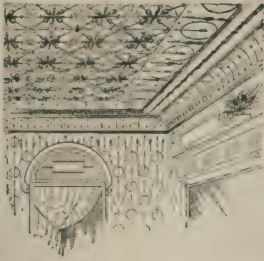
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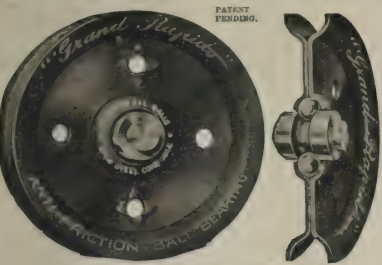
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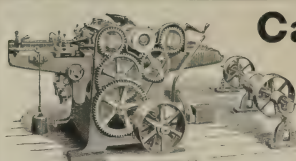
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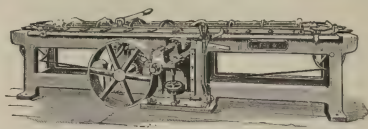
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# SCIENTIFIC AMERICAN

## Building Monthly.



THE COUNTRY HOUSE OF STANFORD WHITE, ESQ., ST. JAMES, L. I., N. Y.

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ENTRANCE TO THE RESIDENCE OF GEORGE S. GRAHAM, AT BRYN MAWR, PA.—See page 64.  
MR. WILLIAM L. PRICE, ARCHITECT



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\*The engravings presented in this issue are made from photographs taken specially for the SCIENTIFIC AMERICAN BUILDING MONTHLY.

## MONTHLY COMMENT.

THE use of artificial materials in building and in decorative schemes involves the most fundamental of all artistic problems—the question of honesty. Art must be honest to be good and beautiful, and it can not be beautiful unless it is good. How, then, it may well be asked, can art thrive with false fundamentals, which is what happens when artificial materials are substituted for genuine ones, and the imitation takes the place of the real? The matter is further complicated by the fact that modern ingenuity has produced many substitutes and imitations of materials of every kind, which not only approximate the genuine in appearance, but are so close to reality as to be well nigh undetectable. If we must have splendid buildings, shall their splendor be created by false means? On the other hand, not a few artificial or imitation materials have a higher practicality than the substance they profess to simulate. This is the utilitarian side of the question, which complicates the problem still further.

It is true enough that much of our modern building is imitation and false from core to surface. The old Romans, who taught the world so much in evil, set the fashion in such doings, and set it with such superb grandeur that it has been difficult to find fault with their results. But their methods were quite different from those of the modern decorator with false materials. The Roman built a core of brick, and on it plastered an outer surface of rare marbles and precious stones. The results were often incredibly fine and of the utmost magnificence; yet the modern stickler for truth does not hesitate to criticize them sharply for what they term the dishonesty of this procedure.

But was it dishonest? A wall of solid jasper, a buttress of onyx, are clearly examples of a prodigal waste that even the wasteful Roman emperors would have regarded as preposterous. The beautiful panels of precious marbles which line the walls of the church of San Marco, in Venice, are not less beautiful because they are thin slabs applied to the unsightly cores of rough stone. Nothing more than these slight sheets of precious

materials were needed to adorn and beautify the splendid church, and it would have been a sheer waste of good material to have done otherwise. Any other method would have involved a waste both needless and, in a sense, dishonest.

Such a system of decoration, however, is quite different from building with materials which are dishonest through and through. It has been reserved for our own day to bring such methods into general use. Whether right or wrong, it is very clearly obtaining a certain effect through the use of materials which are quite different from what they profess to be.

Nothing helps so much as the intelligent care of the house. It is an excellent thing to be satisfied with what one has, and it is a hopeless thing to long for the unobtainable; but it is a useful thing, and often helpful, to strive constantly for betterment. But always within reasonable limits. To better what one has is quite different from wanting something one has not and perhaps can never obtain. One gets very much more joy out of a house by betterments thoughtfully provided than by remaining content with what may be but meager furnishings and comforts.

AMERICAN architects are very prone to conduct their professional work in companies of twos and threes. A single architect, doing business for himself, is somewhat of a novelty in America; in England firms are equally rare. There is a good business reason for the partnerships which are so common among American architects. American practice is large and varied; it often involves many problems of engineering. A division of the labor necessary to the conduct of the business is necessary and quite natural. Moreover, one partner will often have social connections and influence which brings in work to the firm that the other partners might not be able to touch.

## THE PORCH AND ITS USES.

THE porch is at once the most ancient and the most useful of human buildings. Primitive peoples used it as their chief dwelling place, as a spot of honor and of utility, wherein their home life was spent, where their courts of honor were held, where their rude justice was administered, and whence the chieftain of the forest viewed the execution of the victims of his judgments.

It is a far cry from such a structure—a rude upbuilding of four poles supporting a rough covering, set up in the midst of a forest—to the broad porch of the American summer hotel, or the richly furnished veranda of the wealthy contemporary citizen—yet the stages of descent can be traced readily enough, and the latter is simply the latest and most developed type of a structure of most ancient origin and most varied history.

Absolutely primitive the porch is in its origin, it has had a rich history. The Greeks gave it wonderful development when they set up a row of columns around their temples and covered them with the roofing of the within building. The exquisite porch of the Eretheion has never been surpassed in refinement of proportions or of detail, and stands quite alone among the achievements of Greek art. One may indeed hesitate to describe a Greek temple as a small cell surrounded with a continuous porch; yet contemporary language might so describe it with quite intelligible accuracy.

In the middle ages the porch had become a building adjunct, frankly recognized and frankly used, and always with much beauty of form and often with great richness of detail. The vast doorways of Amiens and Reims cathedrals are but splendid porches affixed to the great churches they adorn, decorated with incomparable sculpture. The cathedral of Chartres, in its transept porches, has real porches directly applied to the church, porches lavishly humanized with countless sculptured figures, the most sumptuous porches in the world.

The monumental porch as interpreted by the Greeks and the cathedral builders is as remotely associated with the modern house porch as anything can possibly be. Analysis alone establishes the relationship, which is so slight as scarce to have artistic kinship, and which certainly is without structural significance. The modern American, comfortably seated on his comfortable rocking chair on his spacious veranda, might well reject with amazement the suggestion that his porch and the sculptured portals of the cathedral of Reims had anything in common. And as a matter of fact they have not, although they form links in a single and common chain.

The porch, in its universal application to domestic buildings, is largely an American idea and an American development. In this land of architectural liberty almost anything can be called a porch. As a matter of fact we have developed a very considerable series of types. We have porches for doors only and porches for sitting upon and for recreation; we have porches with roofs and porches without. We have, in brief,

come to regard any external addition to the house that is open to the air as a porch; and then in winter we enclose it, and have an outer room, which we call a porch, and yet is wholly different from the summer variety.

Some light on the current acceptations of the word "porch" is shown by the definitions of related words in recent dictionaries. The Century Dictionary gives these solemn definitions:

PORCH: "An exterior appendage to a building, forming a covered approach or vestibule to a doorway; a covered way or entrance, whether enclosed or unenclosed."

VERANDA: "An open portico, or a light gallery attached to the exterior of a building, with a roof supported on pillars, and a balustrade or railing, and sometimes partly enclosed in front with latticework. By a popular, but erroneous, usage often called piazza in the United States."

PORCHIO: "A structure consisting essentially of a roof supported on at least one side by columns, sometimes detached, as a shady walk, or place of assemblage, but generally, in modern usage, a porch or an open vestibule at the entrance of a building; a colonnade."

LOGGIA: "A gallery or arcade in a building, properly at the height of one or more stories, running along the front or part of the front of the building, and open on at least one side to the air, on which side is a series of pillars or slender piers."

BALCONY: "A stage or platform projecting from the wall of a building within or without, supported by columns, pillars, or consoles, and encompassed with a balustrade, railing, or parapet."

PIAZZA: "An arcaded or colonnaded walk upon the exterior of a building; a veranda; a gallery [a less correct use]." (Second definition.)

Here, then, is a very considerable variety in definitions, and most inadequate definitions most of them are. A little more light is thrown on the subject by the late Henry Van Brunt, who contributed a brief article on "Porch" to Russell Sturgis's Dictionary of Architecture:

PORCH: "A covered place of entrance and exit attached to a building and projecting from the main mass. . . . The term 'porch' is somewhat inexactely applied to an open arcade or loggia forming the first story of a building and giving sheltered entrance to it; also to a classic portico with columns. But the modern veranda of modern American houses, where it serves to give entrance to them by a principal doorway, is a true porch."

These quotations are from very modern authorities, yet already the meaning and use of the word porch in America has progressed so rapidly and so completely that they no longer correspond to contemporary usage. The modern American porch is by no means a structure attached to the entrance of a house. On the contrary, it is very good usage, perhaps the best of usage, to have no porch or covered entrance at this point at all; but to reserve the porch for the garden side of the house—if it be a country house—where it is used as a place of rest and recreation, an outdoor room, giving pleasure by its exposure to the air, shelter by reason of its roof, and thorough enjoyment, because here one's family gathers and one's friends are received. In other words, the porch no longer has peculiar architectural significance, but has become a social feature, promoting social life and of broad social association and significance.

And this marks the supremacy of the American porch. The evolution has been rapid. A shallow covered space, scarce wide enough for a reclining chair, gave way, in time, to a broad space, whose width was only limited by the quantity of light needed within the room behind its enclosing wall. Then came the furniture maker, the rug weaver, the manufacturer of decorative pottery, the florist, the delicate woman-touch which refines everything it is applied to; and lo! the furnished porch, the open air room, the new space of resort and rest was complete.

One more step alone remained to complete the evolution, and that was to enclose the porch. The pleasant outdoor room speedily became useless in our harsh American winters. The space was good and useful; why not enclose it, and produce a warm winter room? This idea has happily been put into execution so frequently that the enclosed porch has become a recognized feature of contemporary house building. It is a useful disposition of useful space. It has confounded the dictionary makers, but has permanently entered into the regards of those who care more for comfortable building than for the pedantry of word-definers.



## NOTABLE AMERICAN HOUSES\*

By BARR FERRER.

THE COUNTRY SEAT OF STANFORD WHITE, ESQ.,  
ST. JAMES, L. I., N. Y.

It must always be a matter of astonishment to those who have occasion to travel on the Long Island Railroad why persons of discernment should locate themselves on a railroad that, to the chance traveler, seems operated with a singular lack of regard to public convenience. It is probably the only railroad in the world that has two starting points, neither of which any one wishes to visit, namely, Flatbush Avenue and Long Island City. Thence it spreads itself out over the whole of Long Island like a great hand, leaving hardly a roadway uncrossed, and branching off in an apparently irresponsible way to places one seldom hears of and certainly seldom visits. Of scenery it offers almost nothing of interest, the journey to St. James being only truly picturesque at Cold Spring, where there are some hills pleasantly wooded.

offer Long Island City, and that strange fragment of the metropolis known as East New York, in support of this statement.

It is not the weird railroad journey that attracted Mr. Stanford White to St. James, but the attractions of its wonderful scenery—none of which, of course, is visible from the railroad—and the further fact, and one of quite unusual interest, that this was the early home of Mrs. White, to whom the whole region has been familiar from early childhood. This gives a real personal interest to the White house, since many of the large Long Island estates are now occupied by people who are strangers to the soil and who have neither known nor loved it in early youth.

Another special and peculiar interest attaches to this house, because it was built and designed for his own occupancy by one of the most distinguished of living American architects. Mr. White's firm, Messrs. McKim, Mead & White, have been associated with many notable building enterprises in this country, and one looks for a house of unusual interest when built for his own use by one of these conspicuous architects.

shade, and thoroughly shuts off this part from the inquisitive eye of the passer by.

Of the latter there are few enough. St. James is quite remotely located, being nearly two hours from New York, and Mr. White's house is so situated that positively no other house is visible from it save the houses of the immediate relatives of Mrs. White. One may drive into it almost directly from the highroad, or turning into a pleasant wood, drive through a roadway lined with thick rhododendrons; a semicircle of Ionic columns stands at the turning of the road; more trees—a veritable forest—more rhododendrons—which surely, in the spring time, must give this path a wonderful border of color—and then great orange trees in huge boxes, lining each side of the roadbed; you pass stables and outbuildings—one of them decorated with figures in relief—glance hastily at a little garden in which hollyhocks seem to be the dominant flower—and before you have quite grasped the surroundings, the carriage has deposited you at the entrance doorway of the house.

And here are sights a-plenty to interest one. Across



THE HALL—THE COUNTRY SEAT OF STANFORD WHITE, ESQ., ST. JAMES, L. I., N. Y.

But if the railroad journey lacks interest, this certainly can not be said of the places one may reach by means of this extraordinary railroad. It is the place of arrival that counts on the Long Island road, and very charming and delightful many of the places are that have been built and created on the countryside of Long Island. One realizes quite completely, after a few visits into the wilderness of this spot, that the inhabited portions of Long Island—the cities and towns which crowd its western end—occupy the least interesting sites, and are, in themselves, some of the least interesting places in the world. I respectfully

Yet the personal note in this house is rather in its surroundings and in its interior than in its design. Mr. White has built for himself a house quite ample in its dimensions, and entirely spacious enough for his family, and yet marked by none of the outward magnificence and splendor which has characterized so many of the great houses built by his firm. It is a thoroughly charming house, a thoroughly livable house, a house of quiet dignity and simple treatment, obviously the house of a man of taste who has built for his own comfort and convenience.

An old house once occupied a part of the site on which the present building is erected; a portion of it has been retained, but so transformed and modified as to be entirely lost in the present house, which is thus practically an entirely new building. Three gables, front and back, form the striking feature of the exterior, the service wing to the right being recessed on the front and not counting in the impression received from the entrance road. The walls, including the gables, are pebbled throughout, the quoins of white cement, the woodwork painted white. The kitchen wing is wholly enclosed on all sides by a clove lattice of delicate wood, a device that gives plenty of air and

the driveway—and we are now entirely within Mr. White's own grounds—is a veritable museum of interesting things; two old sarcophagi alive with brilliant hydrangeas; four hermes—those fascinating, bodiless heads that so solemnly look out from their quadrangular bases; a fine old well head, arranged as a fountain in the center circle, with queer bronze fowls standing in the grass. Beyond is a great lawn, closed by a hedge against the highway which bounds its outer edge; before the center of the hedge are four great bay trees in boxes—a distant note of foreign foliage which brings the lawn in harmony with the myriad of exotic plants immediately around the house.

The entrance porch, which stretches wholly across the front of the house, is shallow, as befits a porch where guests may be welcomed and whence they can be speeded on their departure; in no sense is it a porch for pleasure or recreation. Along its front edge are mimic trees from Japan—strange, curious, twisted little trees which have become familiar enough of late years, but which are seldom seen so naturally in place as here. Larger plants stand on the grass; on one side of the approaching roadway are great oleanders; on

(Continued on page 52.)

\* Previous articles in this series: "BILTMORE," THE ESTATE OF GEORGE W. VANDERBILT, ESQ., BILTMORE, N. C., February, 1903. "THE GARDEN AT 'THE GEORGIAN COURT,'" THE HOUSE OF GEORGE J. GOULD, ESQ., LAKEWOOD, N. J., August, 1903. "HARBOR HILL," THE ESTATE OF CLARENCE H. MACKAY, ESQ., ROSHYD, N. Y., September, 1903. "THE ORCHARD," THE COUNTRY SEAT OF JAMES LAWRENCE BRESEE, ESQ., SOUTHAMPTON, N. Y., November, 1903. "THE RESIDENCE OF W. L. STOW, ESQ., ROSHYD, N. Y., December, 1903. "WHITE HALL," THE HOUSE OF HENRY M. FLAGLER, ESQ., PALM BEACH, FLA., January, 1904. "PAULKNER FARMS," THE ESTATE OF MRS. CHARLES F. SEABOARD, BROOKLINE, MASS., March, 1904. "THE HOUSE OF E. J. BERWIND, ESQ., NEWPORT, R. I., April, 1904. "GREY CRAIG," THE ESTATE OF J. MITCHELL CLARK, ESQ., NEWPORT, R. I., May, 1904. "BLAINSDEN," THE ESTATE OF C. LEONARD BLAIR, ESQ., BERNARDSVILLE, N. J., June, 1904. "KILDYSART," THE COUNTRY SEAT OF DANIEL O'DAY, ESQ., DEAL BEACH, N. J., July, 1904. "THE ESTATE OF HENRY W. POOR, ESQ., TUXEDO, N. Y., August, 1904.





THE LIVING-ROOM.



THE DINING-ROOM.



ONE END OF DINING-ROOM.

THE COUNTRY SEAT OF STANFORD WHITE, ESQ., ST. JAMES, L. I., N. Y.—See page 49.  
MR. STANFORD WHITE, ARCHITECT.





THE FORMAL GARDEN.



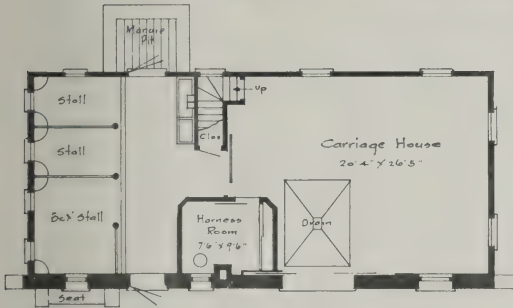
THE DRIVEWAY.



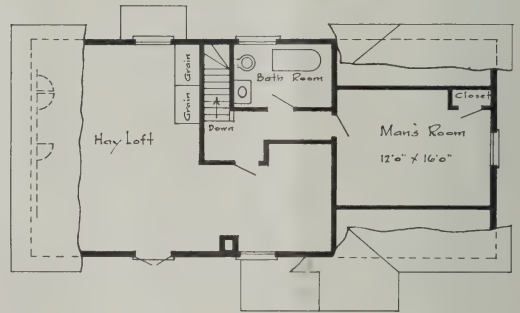
THE PIAZZA.

THE COUNTRY SEAT OF STANFORD WHITE, ESQ., ST. JAMES, L. I., N. Y.—See page 49.  
MR. STANFORD WHITE, ARCHITECT.





- FIRST FLOOR PLAN -



SECOND FLOOR PLAN.



A STABLE AT ELKINS PARK, PA.—See page 65.

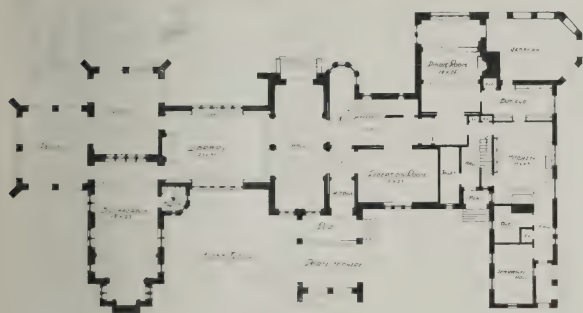
MR. LAURENCE VISSCHER BOYD, ARCHITECT.





THE RESIDENCE OF CAPTAIN P. A. NICKERSON, AT WINCHESTER, MASS.—See page 64.  
MR. ROBERT COIT, ARCHITECT.





THE RESIDENCE OF GEORGE S. GRAHAM, ESQ., AT BRYN MAWR, PA.—See page 64.

MR. WILLIAM L. PRICE, ARCHITECT.





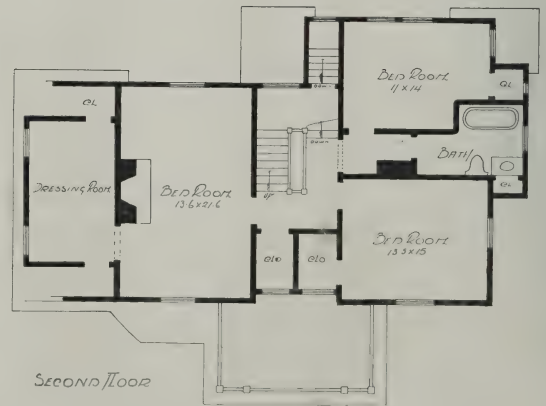
DINING-ROOM.



THE LIBRARY.

THE RESIDENCE OF GEORGE S. GRAHAM, ESQ., AT BRYN MAWR, PA.—See page 64.  
MR. WILLIAM L. PRICE, ARCHITECT.





A HOUSE AT UPPER MONTCLAIR, N. J.—See page 65.

MR. L. L. BISHOP, ARCHITECT.



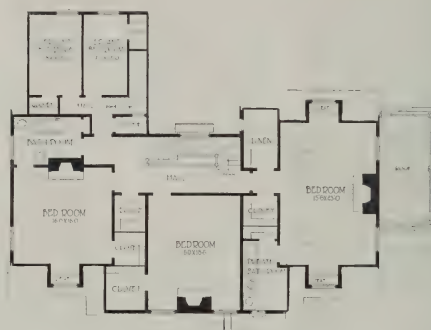


THE HALL.

RESIDENCE OF HENRY C. MEYER, ESQ., AT MONTCLAIR, N. J.—See page 65.

MR. FRANK E. WALLIS, ARCHITECT.





RESIDENCE OF A. G. HOOLEY, ESQ., AT PLAINFIELD, N. J.—See page 63.

MR. A. L. C. MARSH, ARCHITECT.





THE HALL.

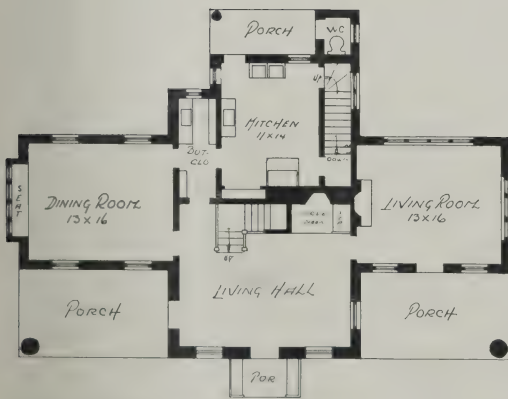


DINING-ROOM.

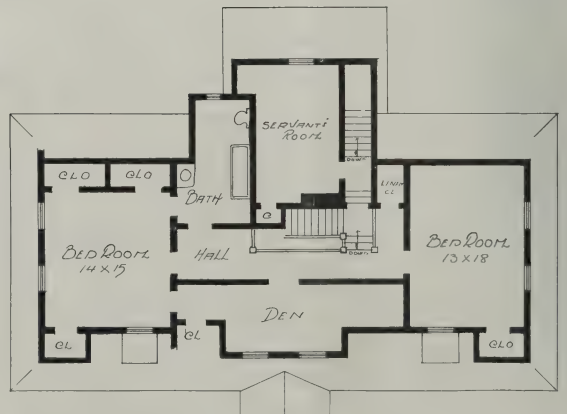
RESIDENCE OF A. G. HOOLEY, ESQ., AT PLAINFIELD, N. J.—See page 63.

MR. A. L. C. MARSH, ARCHITECT.





FIRST FLOOR



SECOND FLOOR

A HOUSE AT WOODMERE, LONG ISLAND.—See page 64.  
MR. CHARLES BARTON KEEN, ARCHITECT.





ENCLOSED PORCH TO THE RESIDENCE OF MRS. CHARLES C. EMOTT, AT MORRISTOWN, N. J.  
MR. OSCAR B. SMITH, ARCHITECT.



ENCLOSED PORCH TO THE RESIDENCE OF S. L. SCHOONMAKER, ESQ., AT PLAINFIELD, N. J.  
MR. G. E. W. DIETRICK, ARCHITECT.



## THE COUNTRY SEAT OF STANFORD WHITE, ESQ..

ST. JAMES, L. I., N. Y.

(Continued from page 49.)

the other a row of small bay trees; and if, perchance, there is a vacant spot, a rare jar or vase is stood erect with only its own inherent beauty to give charm. And against the house wall, standing on the porch are larger plants, in tubs, in pots, in jars, on the floor and on pedestals—many filled and others empty; palms, bay trees, rubber plants, bamboos—a treasure house of curious things.

The side porch, at the end, is narrow like the front porch; here one has a view of the Italian or formal garden that lies below a terrace wall, on which are more Japanese mimic trees, each in a characteristic vase or dish. The garden is small, but brilliant with color, with cannas, geraniums, begonias, lilies and other flowering plants. It is a small square, with walks bounded with box and an outer higher box border for a final enclosure. In the center is a large circular basin and fountain, with a stooping Venus in the middle. Further down, below a lower terrace, is the pergola which closes the garden, beyond which are the trees of the forest. There is a small basin of water below the pergola, which is covered with blooming plants, including some fine oleanders.

Beautiful as the flower garden is as seen from the porch, its real beauty is best seen from walking down the driveway which runs beside it. This, at this point, is a lordly avenue, bordered on each side with a low stone wall, on the emphasized points of which are great aloes, flowering hydrangeas and other plants. To one's right is the Italian garden; to one's left a smaller enclosed garden ablaze with hardy phlox, a brilliant, living, seething mass of bloom; with lofty dahlias beyond in the first glory of their later flowering. The road leads on into a deep wood, and then turns to the right and left, forming the boundary to the property on this side.

Returning to the house, and continuing the journey around the porches, one comes to an expansion on the inward corner which forms a true outdoor room. And now one realizes, as one has not before, the real charm of this delightful house. For spread out before one is a view, so broad and entrancing that even Long Island, with its host of pleasant spots, can scarce equal it. To the farthest right stretches Crane Neck Point, that reaches far out into Long Island Sound. Immediately below one is Stony Brook Harbor, and beyond the quiet waters of Smithtown Harbor. And then beyond the blue waters of the Sound, filling in the horizon. All this is at one's feet; but before it can be reached one must cross a gently swelling lawn, that spreads in delightful green to the forests and low bushes which entirely surround its distant borders. Far off, and quite some distance below the house—whose altitude is exceeded by but two other spots on Long Island—is a Grecian temple, a graceful circular structure with Doric columns, whence one may view in quiet and peace the waterscape below, or look upward toward the house and lawn at one's back.

The space immediately behind the house has, like all the grounds, individual treatment. A low wall supports a grassed terrace immediately below the porch. On the steps stand box trees trimmed in the shape of sitting birds, a charming grotesquery that seems entirely in place. On the wall on either side are vast tubs of flowering cannas; and against the house more bay trees and other curious plants. It is the house of a true plant lover, who stands his

cherished flowers around his dwelling that he may the more admire them, and gain color and life. And quite obviously, too, it is the house of an indefatigable collector of fascinating old jars, chiefly from Italy, of most delightful shape and coloring; jars one longs to carry away with one, jars that one has but to see to become immediately impassioned of.

On a pleasant knoll, not far off and shaded by trees, is a great semicircular seat, and just before it is a white reproduction of the Diana designed by Mr. Augustus St. Gaudens for the Madison Square Garden Tower.

There is so much to see and interest one without the house, both in what belongs there by right of nature's lavish gifts and by what Mr. White's rare taste and active search abroad has brought to it, that one might be quite satisfied with the outside without so much as going within. But in truth, more than half the joy of Mr. White's house would be lost by not

Europe, but chiefly from Italy and Spain. Arranged against the side wall of the corridor are twisted Spanish carved columns, six in all, standing in the corners and on each side of the doorways to the living-room. Fine tapestries are hung on either side, with old mirrors in richly carved gilt frames, and many curious carved ornaments.

In the stair hall are a host of things. Both it and the corridor are paved with dull red enamel bricks, on which rich Turkish rugs are spread. The stairs are open and without banisters, the stair wall, like the other parts, being covered with bamboo. High up on the outer stair wall is a fine figure tapestry with a larger tapestry on the hall wall below. The mantel is treasure-trove from Italy—two giants upholding a decorated cornice. Above is a carved Italian panel in blue and gold, with small standing figures on either side. All sorts of trophies are hung on the walls—a couple of rare old portraits, trumpets with banners, an inscription in iron in a rich gold frame. On the side is a vast carved chest, surmounted with four gilt candlesticks and a gilded eagle; before it are two high brass standard lamps. A high case clock stands just beside the entrance doorway. There is some yellow covered furniture in the hall, which, with the light yellow of the bamboo walls and the many old carved and gilded ornaments, give a positive note of color to the whole space, a joyous, welcoming color, a brilliant opening to this delightful home.

Then down the passage to the dining-room. It is white in tone and color. Toward the lawn it is wholly lit with windows, a continuous series giving a rare sense of openness to the room. A low seat is built below them, with a shelf at the window base, and on it are a host of pottery things—jars, bowls, and vases, with geraniums in bloom. Over the windows are plates hung against the wall, plates and baskets of open pottery work, chiefly of Italian origin, and many of large size; they are mostly white in color.

The two side walls are paneled in small square wood panels with shallow moldings, all painted white. Here are more plates, delicate in color and in texture like the others; mirrors, also, in rich gold frames, round and oval in shape; gilded ornaments of carved wood likewise; a host of treasured articles. Against the further wall is a fine old sideboard, richly furnished with silver and cut glass; on either side of the entrance door is a small old console, decked with silver and china ornaments. The service door, on the opposite side, is hidden behind a fine old bamboo screen, the central panel of each wing being carved and colored.

The remaining side of the room, which is directly opposite the windows, is wholly covered with old Dutch tiles in white and blue. In accordance with the old Dutch custom, a curtained shelf runs across the top, and on it are stood more things of interest; old glass bottles, a colored bust, gilded ornaments. In the center is the fireplace, likewise lined with tiles, with open iron screen in front, and quaint Chinese dogs in color on either side. An old carved serving table stands on one side by the service entrance. The floor, to complete the description, is covered with wide boards stained, with a yellow and blue rug in the center for the dinner table. The furniture is old mahogany. The ceiling is plain white plaster; in the center a simple circle enclosing a sunburst. There is no wood door at the entrance, but an old piece of tapestry in blue and colors serves as a portiere. It is a rarely brilliant room, flooded with light, and filled with a myriad of things of interest, most detrimental to the peace of mind of those



ENTRANCE DOORWAY—RESIDENCE OF A. G. HOOLEY, ESQ., PLAINFIELD, N. J.—  
See page 63.

going inside it, so interesting is its interior, so crowded with works of art and of interest is it.

Roughly speaking, the house consists of three parts. To the right, as one approaches it from the station, is the kitchen and service department; in the center is the entrance hall, which is L-shaped, enclosing the dining-room on two sides; to the left is the living-room, a vast apartment which occupies fully a third of the ground floor.

The hall, by which the house is entered, consists of two parts. One portion of the L is a corridor, which runs directly through the house; the other, at right angles to the passage, is a large rectangular room containing the stairs to the upper floor. The walls are entirely covered with split bamboos, a novel and interesting surface covering that gives a quiet note of color and quite distinguished texture of surface. But it would not be Mr. White's hall if it had been left with this surfacing for finality. The bamboos form the background for a rich collection of objects which this indefatigable collector has gathered from all parts of



whose own dining-rooms are more modernly and less artistically furnished.

Thence to the living-room. One may, indeed, be more likely to visit it first, and, as a matter of fact, I did so; but it is so aboundingly furnished with objects of curiosity and interest that it has seemed best to reserve it to the end.

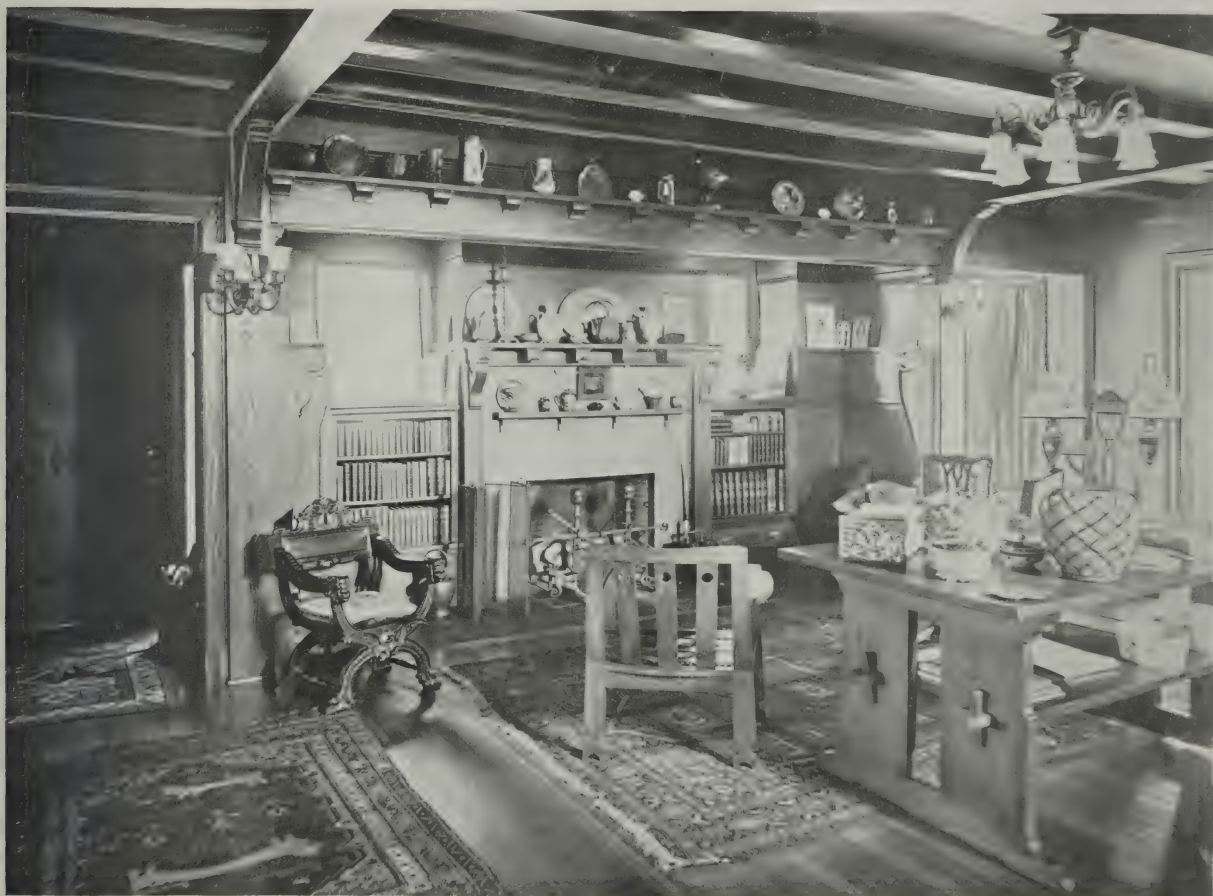
I am sure I do Mr. White no injustice by remarking, at the outset, that one is at once abashed and astonished at the contents of this room. That the floor is stained and spread with splendid rugs; that the walls are of bamboo, largely covered with tapestries; and that the ceiling is of bamboo, are facts easily grasped and, perhaps, quickly comprehended. But within these tapestried walls and beneath this bamboo ceiling are gathered a veritable wealth of curious, beautiful objects which I could readily believe are so beloved as to be regularly carried back and forth from town each fall and spring. There are fine old carved chairs, some with leather backs, some finished with damask, others with bits of church embroidery hung

but a catalogue of a museum. A room to live in? Truly and most delightfully so; for the very multiplicity of its contents speaks not alone of comfort, but of interest, and real, living interest, in everything it contains. If Mr. White's house is unique—and this much overworked word can rightly be applied to it—this room is clearly its most unique part. There is so much of real interest in the room, so much of beauty and curiosity, that I positively did not feel safe until I had left it and the house behind me, and felt of my pockets that I had not, in honest admiration, carried off a hundred or two things I should have liked to have had myself. A sinful thought, no doubt, and certainly vainglorious of me to proclaim the decorous nature of my going away.

#### RESIDENCE OF A. G. HOOLEY, ESQ., AT PLAINFIELD, N. J.

On pages 58, 59, 62, and below will be found illustrations of a residence erected for A. G. Hooley, Esq., at Plainfield, N. J. This house is treated in a modification of the Dutch and Colonial styles. It has an under-

The reception room is trimmed with pine and painted with ivory white, with plain moire silk paper of a metallic green shade. The fireplace has tiled facings and hearth and a Colonial mantel. The dining-room is trimmed with pine and is treated with white enamel. The walls have a paneled wainscoting to the height of six feet, finished with a plate rack. The wall space above the wainscoting is covered with tapestry, and the whole is finished with a wooden cornice. The ceiling is beamed, forming panels, and the whole is finished to match the trim. An alcove built for the buffet is provided with a cluster of windows glazed with leaded glass of a pleasant tone. The fireplace is built of Roman brick, with the facings and a hearth of the same. The mantel, of Colonial style, has a carved panel in the center under the shelf, while at either side there are fluted columns supporting the shelf, above which the overmantel is paneled. At one side there is a china cabinet built in, with drawers under the counter and shelves over, containing a door glazed with small lights. On the other side of the fireplace the door



THE INGLE-NOOK IN HALL—RESIDENCE OF A. G. HOOLEY, ESQ., AT PLAINFIELD, N. J.

against them. There are spacious sofas and chairs of ease and of state; there are lamps and candelabra of all sorts and descriptions; some supporting modern lamps, others—gilt figures almost life size—holding the original lanterns they were planned to hold; there are silver lamps dependent from the ceiling; and in the center a curious, mermaid-like affair, with branching antlers carrying candles. There are mirrors in rare old frames; fine old pictures; ornaments of shell and beads; Persian blue and white tiles over the doors to the side porch; singular carved window frames from Holland over the entrance doors from the hall; wonderful Italian twisted columns—of quite rare beauty and elaborateness—stand in the four corners of the room. A great gilded chest stands between the entrance doorways, and is loaded with a host of beautiful objects in metal and other materials. There is some rare old furniture against the walls; a grand piano covered with an exquisite piece of blue and white tapestry; and there are gilded figures and carved ornaments hung and stood where some note of color has been needed. It is a room to be seen and not described, for a description of it would, in a certain sense, be

pinning and chimneys built of brick, which are stuccoed and tinted a soft gray color, while the superstructure above the underpinning is covered with shingles stained a silvery gray color. The trimmings are painted ivory white. The roof is also shingled. The striking feature of this house is the large hall, which is 18 x 26 feet, exclusive of the nooks and stairs. This room is trimmed with chestnut, stained and waxed a dull rich brown. The walls are wainscoted to the height of five feet with a deep red burlap, over which there are placed strips of chestnut, forming panels of the burlap and stiles of the strips. The walls above the wainscot are rough coated, and are tinted a lighter shade of red than the burlap. The ceiling is beamed with chestnut, and the panels between are tinted a dull orange. The staircase, separated by an archway, is paneled and provided with an ornamental newel and balustrade. The inglenook is also separated by an archway same as the staircase, and it has a plate rack over the arch, and contains an open fireplace built of Roman brick, with the facings and hearth of the same, and a mantel. On either side of the fireplace there are bookcases and seat built in, with windows over the same.

opening into butler's pantry balances the treatment at this end of the room. The butler's pantry is fitted up with drawers, shelves, and cupboards complete. The kitchen is fitted with all the best modern conveniences. The chimney breast at the back of the range is faced with white enamel brick. Both coal and gas ranges have been provided, with separate water heating appliances. The refrigerator in the storeroom is built in, and is provided with opaque glass lining and aluminum shelves.

The second floor is trimmed with pine and is treated with white painted trim, with mahogany finished doors. It contains three large bedrooms, fitted with large closets, and two bathrooms; two servant rooms, with a private stairway to the kitchen. The bathrooms are furnished with porcelain fixtures and exposed nickel-plated plumbing. The third floor contains one large studio with an open fireplace, one large bedroom, one storeroom and trunk room. The cellar contains a laundry, servants' bathroom, store cellar, cold storage, fuel rooms, and steam heating apparatus.

The house was designed by Mr. A. L. C. Marsh, architect, 97 Nassau Street, New York.



### THE RESIDENCE OF CAPTAIN P. A. NICKERSON. AT WINCHESTER, MASS.

THE illustrations shown on page 53 present the residence of Captain P. A. Nickerson, at Winchester, Mass. The house is designed in the English half-timbered style. The terraces to the porch and the underpinning are built of rock-faced stone laid up at random in white mortar. This stonework is particularly attractive with its many rich colorings. The first story is covered with shingles, stained a soft gray color. The second and third stories are beamed with cypress, and the spaces between are filled in with plaster of a grayish tone. The beams are stained a soft brown color. The roofs are covered with shingles, and are stained a moss green.

From the terrace the hall is reached through a vestibule, which is enclosed with glass in winter. This hall is trimmed with mahogany, and has a high paneled wainscoting and a wooden cornice. The staircase is of a very handsome design, with a newel post rising up to the ceiling and supporting a beam, which extends from one end of the hall to the other, and finally finding a resting place on pilasters placed at both ends of the opening. A coat closet and toilet are provided underneath the staircase. The reception-room, to the right of the entrance, is trimmed with white pine and is treated with white enamel. There is a false fireplace with white enamel tile facings and hearth and a mantel.

The living-room is trimmed with mahogany, and it has bookcases built in and a beamed ceiling. The open fireplace is built of brick, with the facings and a hearth of the same and a mantel of excellent design. The den, at the rear of the living-room, is trimmed with oak and treated in the Flemish style. It has a high paneled wainscoting, a wooden cornice, and a dome ceiling. There is also an open fireplace built of brick, with the facings and hearth of the same, and a paneled mantel; on either side of the fireplace there is a paneled seat.

The dining-room is placed at the opposite end of the building from the living-room, and has mahogany trim, a high paneled wainscoting, finished with a plate rack, above which the walls are covered with tapestry, and the whole finished with a wooden cornice. The fireplace is built of Roman brick, with the hearth and the facings of the same, and a mantel. At one side of the fireplace there is a paneled seat, over which there is a cluster of small windows; and at the end of the room and at either side of the door opening into the butler's pantry, there is a buffet built in, with drawers underneath the counter shelf and glass cabinets over the shelf, which are built in a very artistic manner. The butler's pantry is fitted with drawers, dressers, cupboards, and bowl, etc. The kitchen, servants' hall, stair-hall and its dependencies are fitted up with all the best modern conveniences.

The second floor contains four bedrooms, with large closets, two bathrooms, one boudoir, sewing-room, linen closet, etc. The trim of this floor is treated with white enamel paint. The bathroom is furnished with enamel tile wainscoting and paved floor, and porcelain fixtures with exposed nickelplated plumbing. The extension over the kitchen contains two servant bedrooms and bathroom, with a private stairway to the kitchen.

The third floor is trimmed with whitewood, and is treated with white enamel paint. It contains five bedrooms and bath, besides ample storage room. A cellar, with a cemented bottom, is placed under the entire house, and it contains a steam heating apparatus, laundry, fuel rooms, cold storage, etc.

Mr. Robert Coit, architect, 85 Water Street, Boston, Mass.

### A COLUMN IN A GARDEN.

THE Ionic column photographed on this page stands in the beautiful grounds surrounding the house of Nathan F. Barrett, Esq., the well known landscape engineer and architect, Rochelle Park, New Rochelle,

N. Y. This garden, which is remarkable in many ways, was illustrated and described in the BUILDING MONTHLY for September, 1901.

The present illustration shows how effective a bit of architecture may be if surrounded by luxuriant foliage, even though itself disconnected and unrelated to a structure.

### A HOUSE AT WOODMERE, LONG ISLAND.

ON page 60 will be found an illustration of a house at Woodmere, Long Island, which has been built for the Woodmere Land Association, of which Mr. R. L. Burton is the owner. The house has a gambrel roof overhanging the piazzas, the center of which covers the living hall, while the two ends are supported on massive stucco columns. The front entrance, with a hood over the same, and a brick porch in front, with quaint settles on either side, are also noticeable. The underpinning is built of stone, with a layer of brick on top, and from this grade to the second story the building is constructed of stucco with small lighted windows and wooden shutters, the whole of which is



AN IONIC COLUMN ON THE GROUNDS OF NATHAN F. BARRETT, ESQ.,  
AT ROCHELLE PARK, NEW ROCHELLE, N. Y.

pointed white. The second story is covered with shingles, and is also painted white. The roof is shingled and left to weather finish. Dimensions: Front, 55 ft.; side, 39 ft., exclusive of piazza. Height of ceilings: Cellar, 7 ft.; first story, 9 ft.; second, 8 ft.

The plan of the house is in the shape of a cross, with a central square hall forming one arm, the kitchen forming the other, while the living and dining rooms form the other extremes. The first story is trimmed with oak, except the kitchen, and is finished in Flemish brown. The living-hall contains an ornamental staircase and an angle nook, provided with an open fireplace trimmed with brick facings and hearth, a mantel, and a seat at one side. The living-room has an open fireplace furnished with Roman brick facings and hearth and a mantel. Windows on three sides make the room cool, and a door opens on to a porch. The dining-room is provided with an attractive window with seat. The butler's pantry is fitted with drawers, cupboards, sink, etc. The kitchen is trimmed with white pine treated with hard oil, and is fitted with all the best modern conveniences.

The second story is trimmed with white pine treated with ivory white paint, and it contains two bedrooms,

bathroom, den, and a servants' room over the kitchen wing, with a private stairway to the same. A cemented cellar contains furnace, fuel rooms, etc.

Mr. Charles Barton Keen, architect, 1604 Chestnut Street, Philadelphia, Pa.

### THE RESIDENCE OF GEORGE S. GRAHAM, ESQ., AT BRYN MAWR, PA.

THE residence of George S. Graham, Esq., which is illustrated on pages 47, 54, and 55, has been built at Bryn Mawr, Pa. The building is treated in the Tudor style, with Gothic feeling, and is constructed of red brick with Indiana limestone trimmings. The gables have half-timbered work and ornamental verge-boards. The roof is covered with green slates. The plan is of the elongated type, and includes a vestibule and hall with a groined and vaulted ceiling. This hall is trimmed with quartered white oak, and has a paneled wainscoting four feet in height. The vaulted ceiling is supported on oaken pilasters with carved capitals. The staircase, of ornamental character, has a broad

landing thrown out into a bay window, which is glazed with leaded glass. The reception-room is trimmed with white pine, treated with white enamel. The library, which is placed two steps below the level of the hall so as to secure a greater height, is trimmed with quartered oak finished dark. It has a seven foot paneled wainscoting, a massive beamed ceiling, paneled seats, and bookcases built in with leaded glass doors, and an open fireplace with mantel facings of Indiana limestone.

Beyond the library is the billiard-room, which is treated in the Gothic style. The ceiling is open to the roof, is trussed, and it has beams springing from the pilasters, which are placed at intervals on the sides of the room. There is a high paneled wainscoting, windows glazed with leaded glass, and an angle nook provided with an Indiana limestone mantel and facings. A private stairway leads to the second story, under which there is a toilet-room fitted with tiled floor and wainscoting and porcelain fixtures.

The dining-room is trimmed with oak, finished dark, and has a paneled wainscoting and ceiling beams. The open fireplace, built of brick, has Indiana limestone facings and a mantel of oak. The opening on to the side porch, which is enclosed in winter, is an attractive feature. The butler's pantry is trimmed with chestnut, and has a dresser, bowl, cupboards, etc., complete. The kitchen, storerooms, servants' hall, and the stairway and hall are trimmed with chestnut, and each apartment is fitted with all the best modern conveniences.

The second story hall is trimmed with quartered oak, and the remaining rooms are

trimmed with curly poplar and white enameled pine. This floor contains seven bedrooms, four bathrooms, dressing-room, and a large linen closet, besides four servant bedrooms and bath. The bathrooms are paved and wainscoted with tile, and each is furnished with porcelain fixtures and exposed nickelplated plumbing. All of the rooms have large closets, and several of the rooms have open fireplaces. The servant quarters are trimmed with chestnut. The cellar contains the heating apparatus, bowling alleys, cold storage, etc.

Mr. William L. Price, architect, 1604 Walnut Street, Philadelphia, Pa.

### ENCLOSED PORCHES.

Two illustrations of enclosed porches are shown in the photographs reproduced on page 61.

One is attached to the residence of Mrs. Charles C. Emott, Headley Road, Morristown, N. J., which was designed by Mr. Oscar B. Smith, architect. The other is from the home of S. L. Schoonmaker, Esq., Plainfield, N. J., designed by Mr. G. E. W. Dietrick, architect. The illustrations are interesting types of the enclosed porch, which has become a recognized feature of large suburban and country houses.





## THE BABY'S BED.

THE most approved nests for wee ones, says a New York paper, are made of willow and woven palm. The canopied cots are the daintiest things imaginable. The feet are stationed upon rollers, so the cot may be easily moved about from one room to another, without disturbing the little occupant. One of these ideal nests has curtains of pure Irish linen, with rows of hem-stitching, and narrow ribbons run through eyelets. The design of the embroidery takes the form of a French bow-knot with sprays of lilies of the valley and forget-me-nots; embroidered with the padded satin stitch, done with white silk floss. The ribbon may be of color or pure white, or very faint coloring may be introduced in the embroidery, matching the shade in the embroidered flowers. Baby blues and pinks are charming. The colors chosen for the bed drapery follow through the other furnishings.

Another cot is trimmed with pin-dotted Swiss and Valenciennes lace. The lining is of colored china silk, where the purse can afford it; sateen and dimity are also used. The curtain drapery is shirred around a circular arm or frame at the top, surmounted by a dashing bow of satin ribbon. In using ribbon, both for the narrow and wide widths, it is best to get the washable Louisine, which launders beautifully. One or two ruffles may be used for the valance; the spread is separate, and matches the pillow in decoration.

Even more picturesque and less expensive are the bassinette and Moses baskets, the latter being modeled after the Biblical basket, and made of willow and woven palm. They are very light in weight. They are fitted with hair mattresses and down pillows, precisely like the cots. They are trimmed inside and out with sheer materials, lined with silk, lace, and ribbon decoration. Stands come with these pieces.

## MEN'S FURNITURE.

"JOLLY furniture" is the term that best expresses the "Mission" and "Early English" chairs and couches, tables, china closets, etc., now much in vogue, says an exchange. Every piece is good to look at, sensible, comfortable, practical, substantial, and picturesque—a combination of qualities truly as rare as desirable.

Take a library or hall set, for example. There is a monster high-backed seat of fumed native ash, light brown in hue and of soft, dull finish. It has fat cushions of sealing wax red leather fastened with straps and buckles. A big writing table is solid enough to hold a heavy lamp and any amount of books and magazines, and yet leave room for writing materials. It has two large and two small drawers for papers, etc. The keys and handles are of burnished brass.

Fumed ash in pale tones, white, cream, gray, with tinges of pink and green and very light brown are odd and summery looking. They are relieved by ornaments of black iron in fretted designs.

The most delightful hall-stands are in black and brown oak and ash, ornamented with panels of burnt wood or of colored posters of sporting scenes set in flat frames. One settee with a rack for hats and wraps, canes, golf clubs, etc., above the seat, has a hunting panel set in the back, the gleaming colors of the fields, with pink-coated huntsmen and spotted beagles in hot pursuit of the fox, showing brilliantly in its setting of dull, black wood.

A hall screen has a poster panel set across the top and a valance of green leather at the bottom. Some of these new screens are made like the five-barred gate beloved of the huntsmen, with posters set between the bars. The "Dutch boy" and "Dutch girl" posters of Cecil Aldin are favorites for screens, as well as the Fallowfield and other hunt pictures. Green and yellow are the predominant tints in the former, while scarlet, green and brown stand out most clearly in the latter.

Octagonal tables, with "gate-legs," as the old furniture makers called them, and tops covered with leather secured by large brass nails; settles with leather cushions and a book cupboard at one end; clocks with brass chains and weights, and side shelves for china or bric-à-brac; Dutch desks with curious three-cornered drawers and cupboards for books with leaded glass doors—all these and many other charming, quaint pieces are offered to the woman who is in search of something odd, artistic, useful and not atrociously costly for her summer home.

A USEFUL towel rack for the bathroom consists of rounds strung across a corner. It is often more convenient than a straight rack which stands on the floor.

RESIDENCE OF HENRY C. MEYER, ESQ., AT  
MONTCLAIR, N. J.

THE house which is illustrated on page 57 has been erected for Henry C. Meyer, Esq., at Highland Avenue, Montclair, N. J. It is designed in a unique style. The underpinning is built of red brick, while the superstructure is covered on the exterior with matched sheathing, and then with white pine boards, which are in the form of clapboards. The whole of the house is painted white, and the blinds bottle green. The roof is covered with shingles and is finished naturally. The plan is so arranged that all the rooms are well lighted and ventilated.

The interior throughout is trimmed with white pine and treated with white enamel. The hall, which is a central one, contains an ornamental staircase with newel posts and balusters finished with white enamel and a rail of mahogany. The walls have a paneled wainscoting and a wooden cornice. The living-room has a bay window, with a paneled seat, and an open fireplace built with red brick facings and hearth, and a mantel of Colonial style. The dining-room is treated in an attractive manner, and has two bay windows, one at each end of the room, with paneled seat, and it also has a paneled wainscoting, wooden cornice, and a fireplace with a Colonial mantel. The butler's pantry is fitted up with bowl, cupboard, and dresser complete. The kitchen and its dependencies are fitted with all the best modern conveniences.

The second floor contains a large open hall, four large bedrooms provided with large, well fitted closets, linen closet, and a bathroom, and also two servant rooms, and a bathroom. The bathrooms are furnished with porcelain fixtures and exposed nickelplated plumbing. The cellar, cemented, contains a laundry, heating apparatus, and fuel rooms.

Mr. Frank E. Wallis, architect, Townsend Building, 1123 Broadway, New York.

## A HOUSE AT UPPER MONTCLAIR, N. J.

A HOUSE built for William H. Parsons, Esq., at Upper Montclair, N. J., is illustrated on page 56. The materials are red brick for the underpinning and chimneys and stucco for the exterior walls. The exterior framework is covered with matched sheathing boards, plaster boards, and three coats of Portland cement, rough cast, of a grayish color. The trimmings and beamed work are painted a cream white, and the blinds a bottle green. The roof is covered with red cedar shingles, and is stained a soft red color. The cemented cellar contains a three part, white enamel wash tub in the laundry, Thatcher tubular furnace, fuel rooms, etc.

The first story is trimmed with white pine treated with white enamel. The hall, a central one, contains a Colonial staircase with painted posts and mahogany rail. The living-room has an open fireplace with facings and a hearth of brick and a mantel of Colonial style. The dining-room has a similar fireplace, and has a butler's pantry fitted with a butler's bowl, dresser, and drawers. The kitchen and its dependencies are fitted up complete with all the modern conveniences.

The second story contains three bedrooms, provided with large, well fitted closets, a large dressing-room, and a bathroom furnished with porcelain fixtures and exposed nickelplated plumbing. The third floor contains the two servant quarters and two trunk rooms.

Mr. L. L. Bishop, architect, Westhampton, L. I.

## A STABLE AT ELKINS PARK, PA.

THE stable illustrated on page 52 was erected for W. M. Ostrander, Esq., at Elkins Park, Pa. It is constructed on the front of long, flat local stone, laid in such a manner as to present a varied color effect. The joints are wide and are pointed with white cement. The frame part of the building is covered with the old-fashioned hand split cypress shingle, laid in courses of ten inches to the weather and painted white. The roof is covered with a similar shingle and is stained a moss green. Dimensions: Front, 48 ft.; side, 22 ft. 6 in. Height of first story, 11 ft.

The carriage room has a wainscoting of yellow pine to a height of five feet, above which the walls and ceiling are plastered and are tinted a buff color. All the woodwork is finished natural. The floor is cemented and is provided with a carriage wash, connected with a drain.

The harness room is lined, ceiled, and floored with yellow pine boards, and is fitted with a harness closet with sliding doors and a chimney. The stable is ceiled throughout with ¾-inch yellow pine board, finished natural. There are two single stalls and one box stall, which are fitted with ornamental ironwork. The stalls are drained by Snow's patent floor drain.

The second floor contains a man's room and bathroom and a large loft for the storage of grain and hay. A feature of the exterior is the clock in the gable at the front.

Mr. Laurence Visscher Boyd, architect, Harrison Building, Philadelphia, Pa.



## THE PROGRESSION OF AUTUMN FOLIAGE.

LIKE the procession of the seasons, says a recent writer, the various tree species assume their autumn garb in the regular order. In some localities it may be early or late; but, then, our spring or fall does not always arrive in accordance with the almanac. Here and there individual trees may be slow in donning their gay livery, and there are spots where winter lingers, though all around the land is warm with returning spring. The prevailing colors might be tentatively summed up thus:

Pure yellow—Tulip tree, yellow and canoe birches, white maple, yellow locust, honey locust, yellowwood, Norway and sycamore maples, beech, willow, cucumber, ailanthus.

Yellow ochre—Larch, poplar, aspen.

Lemon yellow—Hickory, black walnut.

Dull yellow—White elm, chestnut, white birch, bass-wood, butternut, catalpa, cottonwood, bur oak.

Vandyke brown—Sycamore or buttonwood.

Orange—Black birch, horse chestnut, gingko.

Red—Scarlet oak, sumac, dogwood, hornbeam.

Scarlet, crimson, and yellow—Red maple.

Red, yellow, and green—Hard maple, sassafras.

Scarlet, crimson, and purple—Sour gum.

Purplish red—Red oak.

Red and russet—Black oak, white oak.

Red, yellow, and brown—Sweet gum.

Brown, purple, and salmon—White ash.

Raw umber—Scrub oak.

## A WATER AND BAMBOO GARDEN.

A WATER and bamboo garden in County Kilkenny, Ireland, described in an English contemporary, presents many points of novelty and interest. It was begun in a small way with a planting of *Arundinaria japonica* (Bambusa Metake), A. Simoni, *Phyllostachys aurea*, and P. viridiglaucens. As they succeeded well many more were planted; and two years afterward the lily-ponds were made, and planting has been continued at intervals ever since.

When the excavations were made for the ponds, the soil was thrown up to make a high bank on the side farthest from the walk, the bank being planted with a variety of plants, with a view of providing immediate effect, but with the idea of weeding out any that proved to be unsuitable after trial. Here were placed *Gunnera manicata*, throwing its gigantic leaves over the water; bamboos in variety (as *Arundinaria japonica*, *Phyllostachys flexuosa*, P. Henonis, *Arundinaria Simoni*, *Berberis stenophylla gracilis*, and B. *empetrifolia* major, which were planted so as to hang over large stones thrown up with the soil), hydrangeas, *Cordylone australis*, *phormiums*, *eulalias*, *osmundas*, *aralias*, *Spiraea japonica* and other smaller species on the water's edge. Behind the plants named above are clumps of *Arundo Donax*, pampas-grass, *Eucalyptus globulus*, *Leycesteria formosa* and *Arbutus unedo*, the whole having a background of large evergreen oaks.

In the water different varieties of nymphæas are growing, also a small group of *Richardia africana*, some plants of *Cyperus longus*, and *Carex pendula* on the edge.

A running stream from a spring in the clump of trees has little waterfalls, and at the highest part a small rocky weir was formed. This is now well furnished with rock-plants, some hanging down to the water's edge; and there is a background of taller plants, such as bamboos, yuccas, cordylines, and veronicas. Lower down the stream and planted in the turf are some good clumps of *Libertia grandiflora*, which in the spring afford a beautiful effect with hundreds of pure white, wax-like flowers which are reflected in the water. Higher on the slopes are belts of daffodils in the grass; a clump of *Crimson Rambler Rose*, climbing at will over a large heap of roots and stones, and the white climbing *Rose Rampant*, growing vigorously round an old tree-stem, sawn off about eight feet from the ground. Lower down, right on the banks of the stream, are ferns in quantity, *myosotis*, *funkias*, *Saxifraga peltata*, *Polygonum Brunonis*, and in a shady spot *Rodgersia podophylla*, which is very effective.

Other species made use of, and planted largely in clumps, are *phormiums*, *cordylines*, *kniphofias*, *polygonums*, pampas-grass, *gunneras*, *Rhus typhina*, *Berberis Thunbergi*, *lupins*, both the tree and perennial varieties; *Anemone japonica*, *Bocconia cordata*, *iris*, *aconitum*, *montbretias*, *hydrangeas*, *hardy fuchsias*, *hypericum*, two varieties of *epilobium*, *Aralia Sieboldi* *spiraeas*, *veronicas*, and many varieties of bamboos.





## Fire Protection

### SOME CONSTRUCTIVE HINTS.

A WELL-MADE floor with the ends of the joists well bedded in the walls, flooring boards not less than one inch thick, well tongued together, the spaces between the joists filled with pugging, and the underside coated with plaster one inch thick on wire laths, says an exchange, will resist the action of fire either from above or below for a very considerable time, only giving way when burnt right through. Although the use of timber in the floors may to some extent increase the smoke, this does not amount to anything of great importance, since everything else in the room, the hangings, etc., must be well alight before the floor begins to burn.

Stud partitions covered with lath and plaster and hollow in the middle are extremely dangerous, acting as a ready channel for the fire from one point to another; nor is there any necessity for their use, now that so many different kinds of solid and fireproof partitions are to be obtained. Staircases of stone, although generally recommended as a fireproof construction, should not be used unless they can be placed in a well apart from the main building. As pointed out above, stone stairs are very untrustworthy when exposed to heat; being for part of their length built into the wall, the expansion is bound to be unequal, and they are apt to snap off at the point of junction when exposed to heat. A staircase made of hard wood, such as oak or teak, with its underside coated with plaster, will remain in position and serviceable long after it has been impossible for any human being to go up and down it, and even if it does catch alight the first jet of water will make it passable again; heat sufficient to set alight such a staircase would either break off stone steps or render them impassable. In a large preparatory school built not long ago the staircases in the boarding house were made of oak, after consultation with the fire brigade authorities as the safest method of construction. A safe and satisfactory form of stair can be constructed out of concrete, with solid two inch treads of teak or oak.

The arrangement of the fireplaces and flues is, of course, a matter of extreme importance, particularly in the case of wooden floors; care should be taken to see that the wooden centering is removed from the small arches that carry the hearth stones. A better plan is to carry these on concrete, carried the full depth of the floor with the plaster applied directly to the underside of the concrete. Flues, unless surrounded with a full nine inches of brickwork, should have fire clay linings. A danger in the case of buildings warmed by means of air brought in over hot pipes may be mentioned here. It often happens that on a mild day in winter all the registers are closed, in which case the temperature inside round the pipes rises dangerously high; some of the registers should be made so that they can not be closed, in order to insure a movement of air.

### WATER SUPPLY AND HYDRANTS.

THE practice in the large Eastern cities, pointed out Mr. H. W. Bringham, in a paper read before the Fire Underwriters of the Pacific, is to have two steamer openings on each hydrant, and as many of the latter as possible—often two at each street intersection and one at alley corners. This same principle is just as valuable to the smaller towns, and should have careful consideration. A pressure of seventy-five pounds at hydrant or steamer will throw a stream 111 feet high through 100 feet of hose, and only fifty feet when 1,000 feet is required, and in each case with inch nozzles. Larger streams and pressures result in much greater waste, for the friction increases as the square of velocity with which the water moves in the hose. Consequently, much is gained by having plenty of hydrants, and it should be remembered that, while there is not much difference in cost between a section of hose and a hydrant, the latter is practically a permanent investment and will outlast a very large value in hose.

How much easier it is to handle a large fire when the lines of hose do not exceed 300 or 400 feet! This matter of the waste of power by friction has resulted in the trial of hose with larger diameters than the standard two and one-half inches; but here we are again restricted by the great weight of the big hose when filled. An increase of but a quarter of an inch makes an additional weight of twenty-two pounds of water and a total excess of about one-fifth, while fifty feet of three-inch hose holds 152 pounds of water, a weight nearly equal to that of a section of standard hose filled. These diameters effect considerable saving in friction, but it is a question whether this is not counterbalanced by the great additional weight and the complication and confusion resulting from couplings of different diameter.



## The Camp

### MRS. T. M. CARNEGIE'S ADIRONDACK PLACE.

A SWISS chalet has replaced a log cabin on North Point, Raquette Lake, and marks a departure from the accepted type of rustic camp which has so long been typical of the Adirondack country, says Kenneth Goldthwaite, in the Rider and Driver.

Raquette Lake has rare charm in the rich beauty of its shore lines and its emerald isles. The Indians who first camped along its shores called it "Pa-po-ha-koh-mak," because of its many bays and confusion of headlands and islands, but it eventually came into its present title through a bit of history connected with the war of the Revolution, when a party of Indians and British soldiers, under command of Sir John Johnson, a son of Sir William Johnson, set out for the Canadian country from the valley of the Mohawk on snowshoes. Upon reaching Raquette Lake they were overtaken by a sudden thaw, which made the use of snowshoes impossible, and they piled their "raquettes," as they termed them, in a heap on a point of land at South Inlet. The snowshoes remained there until they decayed.

It is a queenly body of water and stirs the deep sentiments of the lover of the wilderness, for the wild lands are preserved here; it is a rare sporting ground, as trout loiter and spawn in the sharp angles of its inlets and outlets, where there are rare patches of sand and manifold spring holes; the silence of the forest is not broken by the baying of hounds, and the still hunter revels in his art; the canoeist may measure his strokes over twenty miles of its shore line in a day and then require four days at least to make the circuit; the State owns nearly all the land for miles around, and it is an exclusive camping ground for the few who possess plots not owned by the Commonwealth, and those who make their homes here have builded behind the fringe of trees without despoiling the beauty of it all.

Mrs. Carnegie has a mile of shore line, or about 400 acres of land for her camping ground on North Point. The chalet occupies an elevation of fifty feet above the water, and faces the southwest, where the horizon is broken by wooded hills which are revealed in pretty vistas through the pines and the balsams and the silver birches that shield the camp from the sun and break the winds. There is but a single roof top, the only evidence of human activity, in that broad panorama. Now and then a guide, accompanied by a sportsman, may undertake the journey through Raquette Lake bound for Forked Lake and the Raquette River, but it is only rarely, indeed, that the calm serenity of this secluded camping ground is disturbed.

Mrs. Carnegie has a score of buildings, but they are scattered among the trees, so that a number are not visible to the voyagers on the lake. The main building, which includes the assembly hall and the apartments of Mrs. Carnegie, together with several guest chambers, is connected by an enclosed veranda with the building, in which are the dining-room, kitchen, and several sleeping-rooms. The main building is built throughout of spruce timbers that have been sawed in squares and stained brown. The assembly-hall is open through to the roof, and the trusses show. There is a balcony across either end of the hall. The balcony in front opens upon an outside balcony, while that in the rear of the room leads to sleeping chambers. The front balcony is reached by a winding stair leading out of the corner of the assembly-hall, while the approach to the other leads from the vestibule off the closed passageway to the dining-hall. The feature of the assembly-hall is the angle nook fireplace, which is twelve feet wide and about six feet deep. A door to the left leads to Mrs. Carnegie's apartments, which are on the first floor of the gable. The entire building is surrounded by a wide veranda, over which extends the roof of the cabin and the gables. The exterior of the first story of the building containing the dining-hall is lathed and plastered, above which there is timberwork similar to that in the main cabin. The dining-hall contains another great fireplace; the walls are celled with novelty siding, and studs of hewn pine support the ceiling. The roofs are of shingles, while boulders, placed at various intervals, carry out the Swiss chalet idea.

In the rear of the dining-cabin is a picturesque Swiss windmill, the sweeps of which are stationary, the pumping being done by modern machinery. In addition to the cabins mentioned are the lodge of the superintendant, Jerome Wood, two boat-houses and various outbuildings necessary for the housing of wood, ice, etc. The principal boat-house is in the bay northeast of the camp, and its upper story is cut up into bachelor apartments. It is a fine place and is finely kept up.



## The Kitchen

### THE PANTRY.

IN planning a home too much care, points out a writer in the Housekeeper, can not be given to the pantry, for here it is many unnecessary steps may be taken, many false movements made, if the place is not convenient in every detail. In most homes it is here the baking is prepared, for unless it is possible to prepare many dishes on a broad shelf in the pantry, it means that all the ingredients used must be carried from the pantry out into the kitchen to the table, and back again into the pantry when the cooking is finished.

In a most convenient pantry there is a broad shelf, sufficiently large to hold a wide bake board, this shelf being at right angles with the shelves on which the supplies are placed, and it is possible to stand in one place while preparing a baking, and, at the most, take but a step or two to the farthest end of the shelves. In front of this shelf is a large window, which gives perfect light with which to work, without straining the eyes. All up and down the sides of this window small brass hooks are fastened into the woodwork, and on each of these hooks is placed one utensil used in cookery. When one is at work it is possible to lift any one article without disturbing the rest, and, as each article is always kept on its own screw, it becomes almost a mechanical movement to reach for any article that is needed.

On the wall, at the right hand side of the bake board, is a knife rack, and all around the woodwork of the door, as well as on the back of the door, more brass screws are fastened, and on these saucepans, baking pans, and larger utensils are hung, each one on a hook by itself.

The worker in this kitchen believes in saving work as much as possible. So papers are kept at hand all the time to use in various ways, and on the upper part of the pantry door is fastened a receptacle for the papers. It is very simple in construction. An oblong piece of denim is turned in on all the edges, a selvage edge being used for the top of the bag. The denim is then laid against the back of a door and tacked into place with large headed tacks. Another line of tacks down the middle divides it into two compartments, and in one side newspapers are kept, while in the other are kept paper bags of all sizes and pieces of clean white wrapping paper. The linings of all cracker and cake boxes are saved, for these may be used underneath a flat iron, as a lining for cake tins and for wrapping the various parts of a luncheon, so that one article of food will not be contaminated by the rest. There are many other uses to which these box linings may be put.

A large bake board is a home made affair, and is most convenient, since it is sufficiently large to hold all cups, bowls, and even a pan placed on the edge, so that everything is kept on the board and the shelf or table underneath is not soiled.

This bake board is made of a single piece of board 19 x 30 inches—white pine. A long cleat was placed across the back, making a kind of ledge, which holds the utensils on the board, preventing them from falling off. Two shorter cleats were nailed to the sides, and these cleats slope down toward the front edge of the board, where they end almost even with it.

A splendid idea for pantry shelves is to use two coats of white paint—ordinary paint—and then a third, finishing coat, of white enamel. Wash the shelves with cold water as soon as the enamel dries, and then it will harden quickly. Over this place no oilcloth nor papers, but leave the shelves bare and notice the improvement; since there are no covers under which crumbs can collect, there is no encouragement for mice, the enamel is easily wiped off with a damp cloth, and with such a finish it is never necessary to clean the entire pantry at once—it keeps clean all the time.

### FURNITURE OF CONCRETE.

FURNITURE of concrete surely comes as a novelty in these days of novel furnishing devices. A gentleman living in New Jersey has come forward with this new suggestion, and offers actual examples of the availability of concrete for many articles of household utility. He confesses to a dog kennel, to cellar shelves, to an outdoor ice house or ice chest, and even to a stove. The latter article is hardly intended for indoor domestic use, but has been found serviceable for stables, cellars, greenhouses, and similar places where somewhat rough articles can be used.

A good cookstove works not only under favorable conditions, but under all circumstances.



## Cooling Notes

### HOW TO COOL DWELLINGS.

With the advent of midsummer temperatures, says Cassier's Magazine, the cooling of buildings becomes a refreshing subject for consideration. The more one inquires into it, however, the more one wonders why buildings are not more generally cooled by such means as are readily available. It can not be altogether that cost of operation is a controlling factor, for, to begin with, it would not be a serious item; then, too, since much money is freely expended in equipping buildings with heating systems and in operating these in cold weather, assuredly a fair expense ought to be cheerfully assumed to secure a somewhat corresponding degree of comfort during the heated term. An indirect steam or hot-water heating system would lend itself well to a reversal of functions, and would be comparatively simple and cheap to operate. A fan or blower would be necessary to drive air over the coils underneath the lower floor and into the rooms through the usual ducts and registers; and the supply pipes for the coils would have to be connected with a water cooler or other means of refrigeration, with a pump interposed for circulating the cooling agent through the system. Essentially there is nothing complicated or expensive about the outfit, and the comforts which it promises are alluring. Having the cooling pipes directly in the room is not a good plan, and, hence, a house equipped with a heating system or radiators would not lend itself so well to cooling. It would be coolest near such radiators, enough so, possibly, to be unpleasant, while it would be warm in the middle of the room, owing to lack of circulation.

### COOLING APPARATUS.

PLACES of amusement, such as theaters, etc., are empty during the summer, not only because of the chance to enjoy the open air or seashore, but largely on account of the unbearable inside temperature. Attempts made in the past to cool halls of this kind have been primitive, to say the least, such as blowing air through racks filled with ice or pumping cold water through what serves during the winter months as the heating apparatus. The result has only been to increase the already high percentage of humidity prevalent in our seacoast cities.

A device for cooling our offices and homes would make city life more bearable during the summer months, even though such luxuries will only be possible for the well to do. Yet it is reasonable to predict for the manufacturer of liquid air a bright future, and the possibility of seeing the cooling apparatus on sale at the country tinker's just as the heating stove is to-day.

Regarding the cost of cooling with liquid air, according to Director Kruger, of the Gesellschaft für Markt und Kühlhallen, of Berlin, the theoretical energy necessary to liquefy air is nearly twice as great as the cold energy stored in it. But in practice it is found to be six times as great. If we assume that all the stored cold is given off, which, no doubt, is correct, then, theoretically, the same amount of energy is necessary to cool a room ten degrees as to warm it ten degrees. In a low pressure steam or hot water heating plant three times as much benefit is derived from coal as when it is burned in a stove. But this advantage is lost in the manufacture of liquid air, owing to the large amount of energy necessary to produce it. Hence it is right to assume that even when liquid air is made in large quantities, and the demand has reached such a high point that the selling price is reduced to a minimum, to cool a room ten degrees must cost from four to six times as much as it now costs to warm the same room ten degrees with a coal stove.

Naturally the time is still distant when the cost of production will make the manufacture of liquid air a commercial success, as to-day 1 1-3 horse-power are necessary to produce one pound of liquid air, and the present selling price in Germany is 1 1/2 cents per pound. By reducing the energy necessary to 3/4 horse-power per pound, the cost of production would be about 1.13 cents and the selling price between 1.8 and 2.25 cents per pound.—Charles F. Hauss, in the Metal Worker.

PROTECTIVE masks and jackets, constructed for the admission of air, and intended chiefly for firemen's use, are often used in England in refrigerating plants in case accidents should occur in the ammonia chambers. They enable the wearers to venture into such spaces with entire impunity. They have been found entirely successful in handling fires.

## New Building Patents

The following list of New Patents relating to Building and Sanitary Science is prepared expressly for the SCIENTIFIC AMERICAN BUILDING MONTHLY by MESS & CO., Solicitors of American and Foreign Patents. A PRINTED COPY of the specification and drawing of any patent in this list, or any patent in print issued since 1885, will be furnished from this office for 10 cents, if exact date or number is furnished. Result to MESS & CO., 38 Broadway, New York.

### BRICK, STONE, AND TILE.

BUILDING BLOCK. S. D. Hackman, Burroak, Mich. July 5	764,049
BUILDING BLOCK. L. M. Lanows, Muncie, Ind. July 12	765,086

### CARPENTRY.

PARQUETRY FLOOR. C. M. Krebs, New Albany, Ind. July 12	764,048
VERTICALLY PIVOTED WINDOW. J. E. McGinness, Pittsburgh, Pa. July 12	764,955
DOOR. A. Ritter, Cincinnati, Ohio. July 19	765,196
WINDOW. H. E. Brown, Chicago, Ill. July 26	765,810
WINDOW. C. E. Gale, Utica, N. Y. July 26	765,828
WINDOW FRAME AND SASH. A. Ransner, Pittsburg, Pa. July 26	765,857
WINDOW. R. H. Wunder, Baltimore, Md. July 26	765,949

### CONSTRUCTION.

SECTIONAL COLUMN. J. D. Buckley, Fort Worth, Texas. July 5	763,957
CONSTRUCTION OF BUILDINGS. H. F. Lightner, Newcastle, Pa. July 5	764,061
CONCRETE ARCH CONSTRUCTION. W. C. Parmelee, land, Ohio. July 5	764,302
BUILDING CONSTRUCTION. C. W. Stevens, Harvey, Ill. July 5	764,313
METAL AND CONCRETE COLUMN. R. A. Cummings, Beaver, Pa. July 12	764,883
METAL AND CONCRETE GIRDERS. R. A. Cummings, Beaver, Pa. July 12	764,884
PARTITION OR PLASTER STRUCTURE FOR BUILDINGS. G. Boeckel, Mocker, Germany. July 12	764,982
METAL LATH. F. S. Chester, Hartford, Conn. July 12	764,989
BUILDING CONSTRUCTION. T. O'Shea, Chicago, Ill. July 19	765,397
FLOOR THIMBLE. J. H. Zetty, Columbus, Ohio. July 26	765,700
METALLIC LATHING. J. R. Evans, Pittsburg, Pa. July 26	765,963
PORTABLE WALL SECTION FOR HOUSE BUILDING. E. C. Mahoney, Vancouver, Canada. July 26	765,930

### ELEVATORS.

SAFETY CATCH FOR ELEVATOR CARS AND COUNTER-WEIGHTS. H. F. Gussey, Jersey City, N. J. July 5	763,976
SAFETY DEVICE FOR ELEVATORS. A. Perri, Haverhill, Mass. July 12	764,762
ELEVATOR. J. Rice, Chicago, Ill. July 26	765,752
ELEVATOR. J. Rice, Chicago, Ill. July 26	765,791

### FIREPROOFING AND FIRE EXTINGUISHMENT.

FIRE CURTAIN. Uncapher and Andrus, Chicago, Ill. July 5	764,083
FIRE RESISTING SHUTTER OR DOOR. J. Volp, Grove City, Ohio. July 5	764,219
FIREPROOF SKELETON FLOORING. H. G. V. Rydahl, Stockholm, Sweden. July 12	764,772
RELEASING DEVICE FOR FIREPROOF WINDOWS. A. W. Cooper, Chicago, Ill. July 21	764,918
FIREPROOF CONSTRUCTION. J. B. Hinchman, Denver, Col. July 12	765,009

### HAIRDWARE.

SASH LOCK AND STRIKER. R. B. Hugunin, New Haven, Conn. July 5	763,980
LOCK, SPRING AND SPRINGS. New Haven, Conn. July 5	764,014
SASH HOLDER. J. L. River, San Francisco, Cal. July 5	764,305
SASH LOCK. A. W. Cooper, St. Louis, New Richmond, Ohio. July 5	764,493
AUTOMATIC UNLOCKING DEVICE FOR DOORS. J. C. May, Portland, Ill. July 5	764,535
SHEET METAL HINGE. C. S. Van Wagoner, Cleveland, Ohio. July 12	764,785
HINGE. C. S. Van Wagoner, Cleveland, Ohio. July 12	764,833
AUTOMATIC SASH CATCH. J. H. Machen, Norfolk, Va. July 12	765,025
SASH LOCK AND LIFT. O. A. Essig, Canton, Ohio. July 19	765,172
SASH HANGER. N. H. Campbell, Binghamton, N. Y. July 19	765,271
COMBINED SPRING AND LOCK HINGE. W. F. Badine, Grand Haven, Mich. July 19	765,372
METAL WEATHER STRIP. H. E. Kenny, Detroit, Mich. July 26	765,844
METAL WEATHER STRIP. H. E. Kenny, Detroit, Mich. July 26	765,845
SASH FASTENER. S. F. Aubright, Sidney, Ohio. July 26	766,012

### HEATING AND VENTILATION.

VENTILATOR. J. C. Hennis, Philadelphia, Pa. July 5	763,977
HEATER AND VENTILATOR. Johnson and Sheridan, Toronto, Canada. July 5	763,983
HEATING SYSTEM FOR GREENHOUSES OR OTHER BUILDINGS. C. C. Peck, Rochester, N. Y. July 5	764,003
AIR HEATER. W. J. Perkins, Grand Rapids, Mich. July 5	764,004
GAS HEATER. L. L. Lower, Boston, Mass. July 5	764,010
HEATER. H. P. Hooper, San Jose, Cal. July 5	764,191
VENTILATOR. F. J. Prochaska, Park River, N. Dak. July 26	766,063

### PLUMBING.

FLOOR CLAMP. Jeffords and Jeffords, Kansas City, Mo. July 5	764,128
SELF-CLOSING FAUCET. J. C. Norton, Kansas City, Mo. July 5	764,620
SANITARY APPLIANCE. A. A. Carson, Braintree, Mass. July 12	764,912
BATH OR BASIN WASTE APPARATUS. W. Bunting, Jr., Brookline, Mass. July 26	765,697

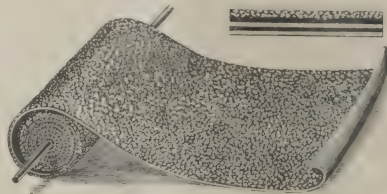
### TOOLS.

CARPENTERS' FOLDING SQUARE. W. Steers, Sr., Chicago, Ill. July 19	765,208
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## Publishers' Department

### PERFECTED GRANITE ROOFING.

WE are pleased to illustrate herewith a roofing that has demonstrated its value by nearly twenty years of successful use under all kinds of conditions. There is nothing scientifically new to be said of granite roofing as a compound. It is the same old roofing; but it loses nothing of its old preeminence, since there is a steady improvement marked in its adoption by builders, contractors, architects, superintendents of construction, and the guild in general; besides getting the indorsement of coal operators, railroad officials, municipal heads, and private and business enterprises. It has been in use since 1885 throughout the country, and it is known to be thoroughly efficient and durable for the exacting requirements of the roofs of chemical works, bleacheries, dye works, and the like, where the manufactured article must be able to resist acid and chemical fumes, steam, and gas. Natural enemies, such as heat, cold, rain, and snow, have no terrors for this granite roofing on any buildings, whether of stockyard dimensions or the ordinary outhouse of a farm, whether a State house or a country cottage. This waterproof roofing chafers only under long continued subjection to intense heat, which makes it extra appropriate for structures liable to ignition from sparks of chimneys, foundries, engines, and locomotives. In this relation we furnish the details given us by the Harrisburg Manufacturing and Boiler Company, that "The building on fire was a frame structure, and while the sheathing and rafters were very badly burned, yet the fire did not get through the granite roofing, thus enabling the control of the blaze. Had the roofing material burned furiously, it would have



GRANITE ROOFING.

been impossible to save the firm's building, as the fire had considerable headway before discovery." The White-Warner Company, of Taunton, also informs us that "A fire occurred last year in its foundry No. 1, and running parallel with it was foundry No. 2, which was saved, as it was provided with granite roofing placed right on top of the shingles, not even scorching these, and for good results was superior to the protection given by the tin shingles on the storehouse." This is a fitting time to state that there is nothing unplanned in granite roofing, as it may be laid on top of old shingles and made to conform so well that the roof will not be noticed underneath, and that, besides the adaptability of this roofing to cover over wooden shingles, it can be put on over old tin, without removing this metal, simply by pounding down the standing joints on lock-joint tin. The material sheds water rapidly, and quickly dries. Even in the rays of a tropical sun it will not run from roof or siding, and resists the hardest downpours and the action of flame. This stone-surfaced material, shown by the accompanying engraving, is scientifically made by experienced workers on specially constructed machinery. It is a composition into which pebbles, uniform in size, are pressed by the application of the machinery, and its crowning feature is probably the fact that when once put on, recoating is not required. The material comes in rolls, and each one contains 110 square feet, and is 41 feet 3 inches long and 32 inches wide. Above the roll shown in the illustration is a small band of the roofing material. The first layer is sea grit, the second and fourth are granite composition, the third and fifth wool felt, a combination that under all the varying changes of the seasons will stand impervious to all attacks. Once washed with rain, the next shedding of water from this roofing will remain untainted, and may be employed for factory, household, watering, and drinking purposes. It is one of the most attractive roofings made, and appears equally well as a siding. For cottages and buildings where the roof constitutes a charm to the entire frame, it can be used in ornamental effect in place of shingles. The best results are obtained by laying



it on well-seasoned boards, and it is so simple in its application that any inexperienced workman can lay it quickly, conveniently, and properly by following the simple and complete instructions furnished with every shipment. In the important matter of fire insurance, we are informed that the rate for buildings covered with this standard ready roofing is the same as for tin or gravel. Some important and interesting figures may be given in reference to the vast output of the granite roofing industry. The new railroad shops at Readville, Mass., are covered with 250,000 square feet of this material; over fifty railroad companies are using the roofing continually; 20,000 square feet of roofing is the covering capacity of one car; the stock yard buildings at East Buffalo, N. Y., required 400,000 square feet; and the Hamburg-American pier at Hoboken, N. J., 135,000 square feet. One of the largest contracts completed by the manufacturers is the covering of the enormous new works of the Lake Shore and Michigan Southern Railroad, at Collinwood, Ohio. Any enterprising purchaser can lay it himself, and have the economic satisfaction that he has not paid for high-priced labor, railroad fares, and board for workmen while they are away from home. In order to facilitate the work of laying the compound, the makers supply a special mop of malleable size. The new and extensive works of the Eastern Granite Roofing Company, which manufactures this material, is equipped throughout with the latest improved machinery, invented by its own experts. The address is the Irving Building, West Broadway and Chambers Street, New York, N. Y. Any one interested in this original stone-surfaced product will receive, as soon as requested, the roofing literature.

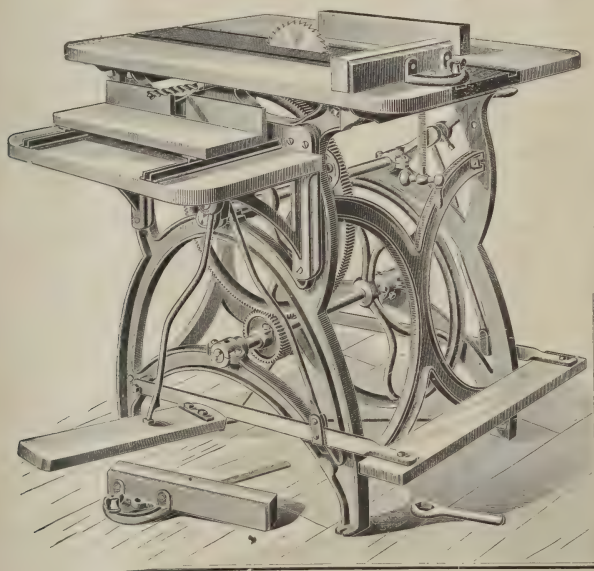
#### CIRCULAR AND BAND SAWS.

The iron frame of the "Marston" hand and foot power circular saw shown in the accompanying illustration is thirty-six inches high. It is made of cast iron, well braced and bolted, and occupies a floor space of about 30 x 40 inches. The center part of the top is made of iron accurately planed, with grooves on each

thereto, and the countershaft is made a part of the legs at the back of the machine. The shafts are made of steel, large and good length, lathe-turned and run in iron boxes lined with the best Babbitt metal; the upper band-wheel bearing slides on accurately planed gibbed ways, and is adjustable up and down by means of a hand wheel, and is also adjustable to bring band wheels into line. The saw pulleys are twenty-four inches in diameter, one and three-eighths inches face, and covered with endless pure rubber bands strengthened with canvas. A shipper is furnished with each machine. Guides are both above and below the table, and the top guide is a roller guide wheel made of hardened steel to receive the thrust of the saw. The distance between the table and the upper guide is seven inches. The table is 24 x 24 inches, and made of kiln-dried hardwood, and has an extra table covering the saw pulley. The height of the table is 3 feet 4 inches; the whole height, 6 feet; the weight 340 pounds. A countershaft is furnished on each machine, with two pulleys 9 and 10 inches in diameter. Marston's 20-inch foot power band saw and the power circular saw bench are excellent types of apparatus, and those who are interested in their appearance and capacities may be fully informed by the catalogue, which will be sent free on request, by addressing the company, No. 199 Ruggles Street, Boston, Mass.

#### TRAVEL TO THE EXPOSITION.

A CAPABLE bit of railroad management, and one very contributory to the comfort of travelers who object to any extra change of cars, is furnished by the Wabash Line in establishing its World's Fair terminal within two hundred feet of the main gate. No other lines land passengers nearer than the Union Station, more than five miles away. The fact that tickets are issued and baggage checked direct to this station, when added to the many facilities of the Wabash system, stamps this as distinctly a World's Fair route, and will warrant the intending tourist, not in near connection with its passenger and traveling agents in the important railroad cities, to send for full information pertaining to routes, rates, service, and time of trains,



HAND AND FOOT POWER CIRCULAR SAW.

side of the saw for gages to slide in. The shafts are made of steel and the metal boxes of the best Babbitt. The gears are all machine cut from solid iron. Two seven-inch saws and two crank handles are furnished with each machine, and with the boring table and side treadle the weight is 350 pounds. J. M. Marston & Company, the manufacturers of this saw, also make power band saws, power circular saw benches, and like apparatus, and have in stock Huther Bros.' patent grooving saws for power machines, Goodell's drill chucks, etc. The grooving saws cut from one-eighth inch up to two inches, and are easily adjusted and sharpened. The chucks are fitted to the Marston machines with or without drills. The firm's twenty-four-inch "Power Band Saw" is made with special reference to the demand for a good, well constructed, accurate machine that will not occupy too large an amount of floor space, but will have power and capacity for all kinds of hand sawing, such as to be found in carpenter shops, cabinet shops, and small job shops, etc., and distinctly adapted to run by electric motor. The frame is cast in one piece, the legs securely bolted

and the tourist literature will also give a colored map of St. Louis and complete plan of the buildings and grounds. The Wabash terminal called for an outlay of \$50,000. It is a commodious station, with great capacity for storing special trains and private cars, and is replete with personal accommodations in every department that makes a depot perfect. Some of the ticket features of this route are: The coach excursion tickets, limited to leave St. Louis within ten days from date of sale, will be sold to St. Louis only on specified dates, good only in day coaches. Fifteen-day excursion tickets sold daily, and continuing during the Fair, with final return limit of fifteen days, and honored on all trains. Sixty-day excursion tickets sold daily, and continuing during the Fair, with final return limit of sixty days, but not later than December 15, and honored on all trains. Season excursion tickets sold daily, and continuing during the Fair, with final return limit of December 15, and honored on all trains. The sixty-day and season tickets can be made via variable routes, which passengers must specify on purchasing tickets. Tickets sold at New York

will be available for going or returning on the Hudson River Day Line or People's Night Line Steamers, except that holders of coach excursion tickets will be granted this privilege only on the return journey. Passengers desiring to stop off at Niagara Falls, Detroit, or Chicago will apply to the conductor, who will indorse and instruct. The stop-over is allowed for ten days in either direction, except on coach excursion tickets, which enjoy the privilege at the Falls on the return journey. H. B. McClellan, General Eastern Agent, is at No. 387 Broadway, New York.

#### ELECTRIC LIGHTS AND SOCKET PLUGS.

No light may be properly said to have a monopoly of all the good points, but the electric lamp called the "Hylo" is as perfect as any incandescent electric lamp can now be made. It is convenient for use, the bulb readily fitting any ordinary fixture, and turns down to a soft glow. Once introduced it quickly becomes established, and is absolutely essential to comfort and economy. Anybody can put it in place. That it is adequate to heighten the artistic effects of a home may be seen in its employment in the dining-room, when the table, with its cut glass, flowers, and silver, presents a strikingly beautiful ensemble of results when shown under the soft "Hylo" turned down, and a gentle pull on a string when guests are seated gives a contrasting brightness to the full power radiance of the light. The turn bulb "Hylo" is simple and a current saver. More than a million users, it is claimed, have given it the position it holds as an article of long life and little trouble. Turned down it saves five-sixths of the current an ordinary lamp will use, and also lasts as long as three of the class just named. Where the socket key is too high to be reached easily, it will be found convenient to use the pull string "Hylo." The lamp is provided with strings thirteen inches long, which turn the light down and then out. Key sockets and switches are not needed. The long distance "Hylo" should be used for ceiling clusters, porch lanterns, and other places where the lamp is too far away. A portable switch is attached by a conducting cord and snap fasteners to the lamp. Fifty feet of cord may be used if required. The manufacturers of the "Hylo," the Phelps Company, Detroit, Mich., have a specialty in the "Skeedoodle" socket plug. It fits any Edison type socket, holds any ordinary lamp, flashes the lamp on and off about fifteen times a minute, and will outlast several lamps. Each plug is complete in itself and independent of every other socket. Electric light is doubly attractive when it flashes. Signs and show windows can be fitted with "Skeedoodle" socket plugs so lamps already in use may be retained. The socket plug saves enough current to pay for itself. Besides the common sign letters, it can be used to advantage for transparencies, to flash colored lamps, show windows, festoons, and decorations, street displays, and fairs. It can be used on either direct or alternating current. Another article quite prominent in the output of the firm, and made to take the place of a current tap, is called the "Annex Lyho." The conducting cord snaps on like a glove fastener. Unscrewing the lamp puts out the light and leaves the fan running. To run a fan, connect a reading lamp, or to put up an extension lamp, it is convenient, quick, safe, and makes a good appearance. The fixtures described are shown at the World's Fair, section 16, Palace of Electricity, and they form a very attractive and instructive exhibit. They are not specially made for exposition purposes, but are simply goods manufactured up to the commercial standard of the Detroit company's quality of output for the service of both the store and the home.

#### MOISTURE IN WOOD.

ACCORDING to M. Deploy, green wood when cut down contains about 45 per cent. of its weight of moisture. In the forests of Central Europe wood cut down in the winter holds at the end of the following summer more than 40 per cent. of water. Wood kept for several years in a dry place retains from 15 to 20 per cent. of water. Wood that has been thoroughly desiccated will, when exposed to air under ordinary circumstances, absorb 5 per cent. of water in the first three days, and will continue to absorb it until it reaches from 14 to 16 per cent. as a normal standard. The amount fluctuates above and below this standard, according to the state of the atmosphere. Mr. Vollette found that by exposing green wood to a temperature of 212 degrees Fahrenheit it lost 45 per cent. of its weight, which accords with observations of M. Deploy. He further found that by exposing small prisms of wood 1/2 inch square and 8 inches long, cut out of billets that had been stored for two years, to the action of superheated steam for two hours, they lost from 15 to 45 per cent. of their weight, according to the temperature of the steam, which varied from 275 degrees Fahrenheit to 437 degrees Fahrenheit (125 degrees Centigrade to 225 degrees Centigrade).





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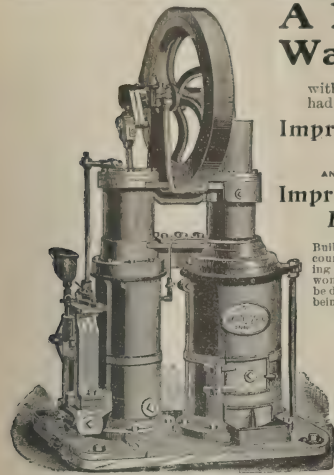
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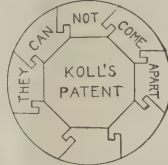
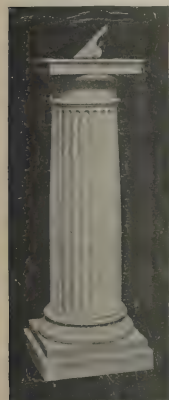
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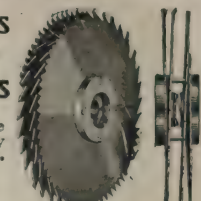


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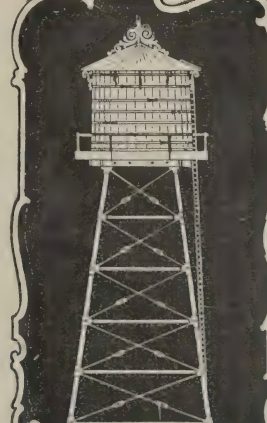
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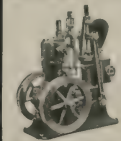


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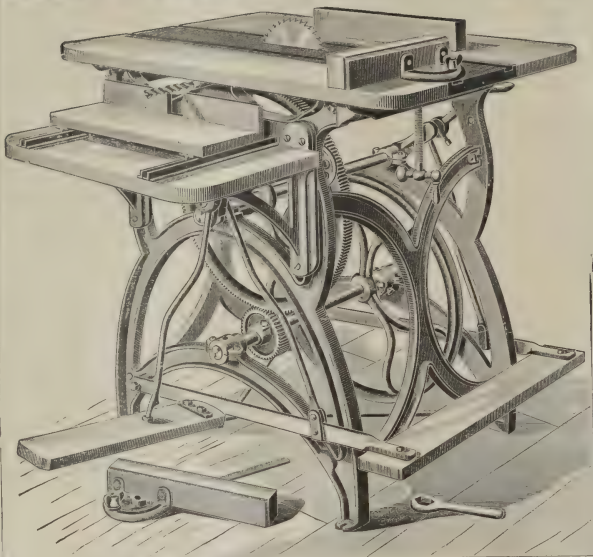
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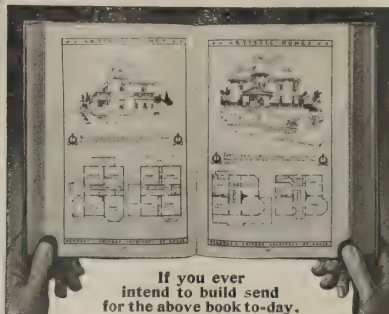
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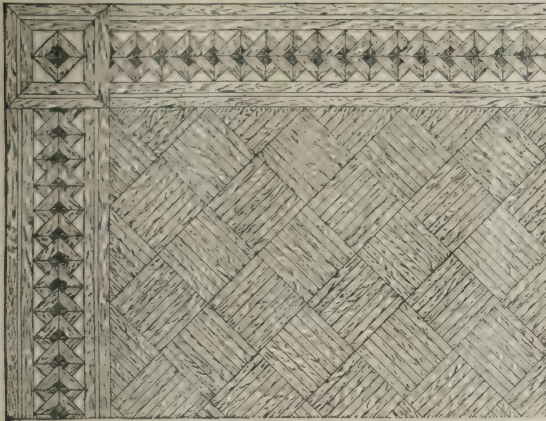
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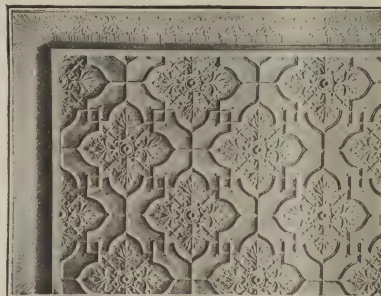
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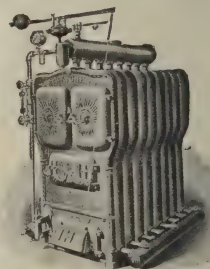
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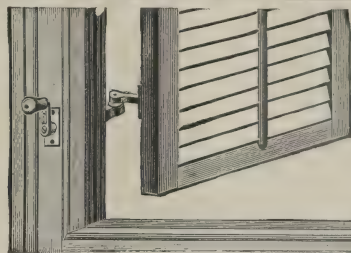
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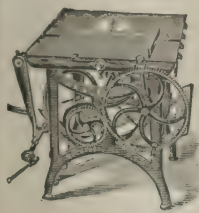
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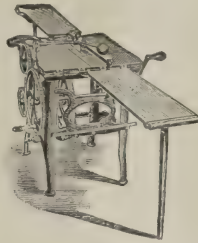


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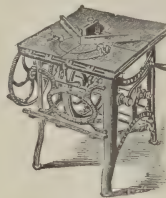
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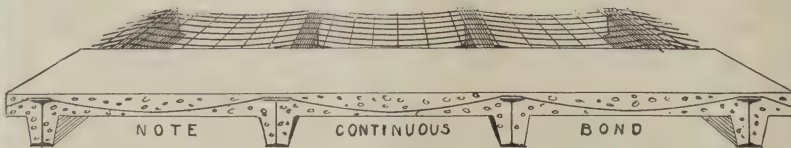
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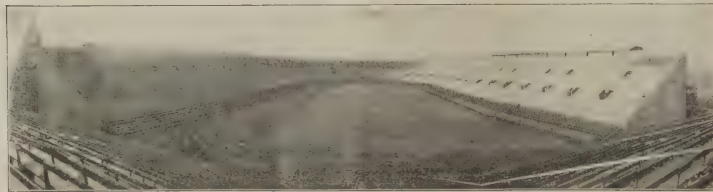
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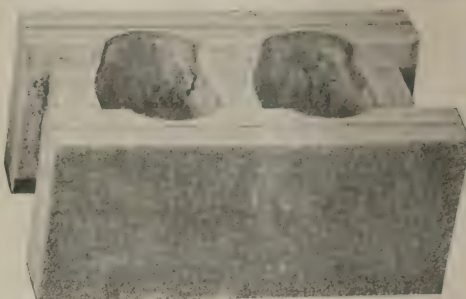
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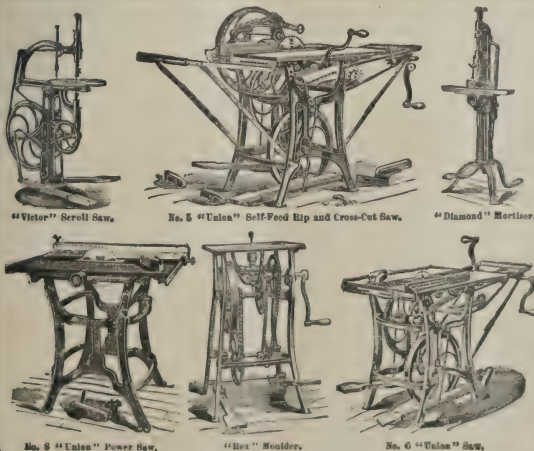
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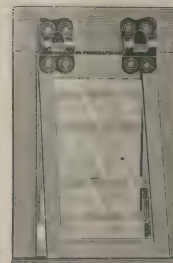
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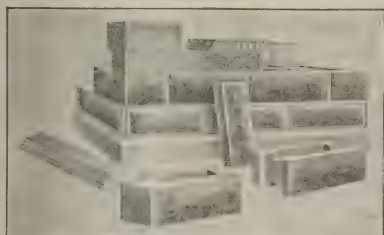
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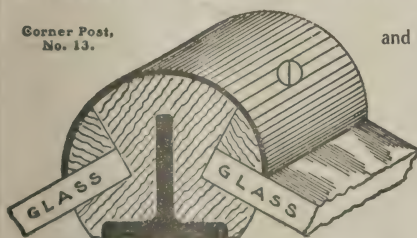
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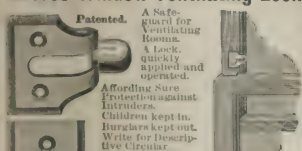
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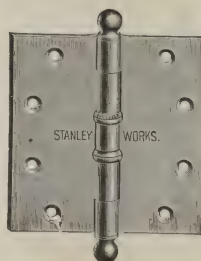
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THE HALL IN "DREAMWOLD"—ESTATE OF THOMAS W. LAWSON, ESQ., EGYPT, MASS.—See page 71.  
MESSRS. COOLIDGE & CARLSON, ARCHITECTS.



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\*The engravings presented in this issue are made from photographs taken specially for the SCIENTIFIC AMERICAN BUILDING MONTHLY.

## MONTHLY COMMENT.

SOONER or later, and certainly later, since there is no sign of any positive movement as yet visible, an effort will be made to protect and preserve the buildings in America which have historic or artistic interest. Our old buildings are disappearing yearly at a rate that is positively alarming, and the time can not be far distant when there will be nothing left. Even so conspicuous a structure, and one so entirely worthy of preservation, as the City Hall of New York is subjected to fresh restorations and improvements with each succeeding administration. Fortunately, most of the changes made in this building of late years have been within it, and the very beautiful exterior has remained practically untouched. Yet there is danger with each successive internal change, and the friends of good old architecture in America may well feel alarmed at the continual betterments with which this fine building is being constantly improved.

BUT there is another class of buildings, quite as interesting in their way, and which are actually disappearing daily, to which little attention is being paid. These are the old houses. This kind of building has been so thoroughly eradicated from Manhattan Island that New York to-day has but a single Colonial mansion, the Jumel Mansion, now very happily owned by the city, and, therefore, assured for indefinite preservation. It was described and illustrated in the BUILDING MONTHLY for July, 1903. Philadelphia has preserved a number of its old mansions in buildings still standing in Fairmount Park, and quite a number of excellent old houses have been saved from encroachments in various parts of the country. But it is the small old house without especial historic interest, and yet of real value as an illustration of early American life and manners, which is being so rapidly swept away. Not a few of these dwellings are still occupied by the descendants of the original owners, and who, strangely enough, have little real interest in their preservation. A good old house of any sort is well worthy of preservation as an historical memento, whether definitely associated with historic interests or with a famous personality or not. It is quite likely that the value of our losses in such matters will only be completely realized when there is nothing left to be preserved.

AN interesting feature of the Louisiana Purchase Exposition at St. Louis is the reproduction by various States of buildings of historic importance within their own territory, or which illustrate, in a more or less practical manner, local modes of life and manners. The most important of these is unquestionably the Louisiana State Building, a reproduction of the famous Cabildo of New Orleans, in the Supreme Court room of which the treaty of transfer was ratified. It has been reproduced as it was in 1803, and in addition to the structure itself Jackson Square, on which it stands, has been reproduced before it. Georgia is represented by a reproduction of “Sutherland,” the home of General John B. Gordon at Kirkwood, a suburb of Atlanta. Virginia reproduces “Monticello,” the famous home of Thomas Jefferson. Tennessee reproduces the “Hermitage,” the historic home of Andrew Jackson. Mississippi gives “Beauvoir,” the mansion presented to Jefferson Davis by Mrs. S. A. Dorsey. Other States have contributed buildings which are intended to be typical of their origin. Texas has utilized the star in the plan of her State building; Maryland shows a costly Colonial manner; Kentucky has a spacious “New Kentucky Home”; Mexico, Indian Territory and Arizona have buildings typical of these distant regions. California presents a replica of the famous old mission of La Rabida at Santa Barbara. The display, as a whole, forms a most interesting summary of the growth of domestic architecture in America.

ONE of the most interesting experiments yet made in America in civic betterment will shortly be undertaken in the town of Milton, Mass. Mrs. Mary A. Cunningham recently left a bequest of over \$600,000 to the town in question, the distribution of the money being vested in a trust with wide discretionary powers. Mrs. Cunningham's will directs that the principal and interest of the trust fund be used for some charitable object or objects which will improve and beautify the town, or which will improve the libraries and schools, or promote the teaching in the schools of sewing and other industrial arts, or which will promote the health of the townspeople by means of parks, playgrounds or hospitals, or by making provision for the townspeople in hospitals or other places. Milton has just dedicated a fine library building. It has annually spent large sums in making its schools the best possible, and it is well supplied with playgrounds. It is an interesting point that the selectmen of the town will not have the distribution of the money, the will of Mrs. Cunningham directing that the expenditure be made by her trustees.

## FRENCH ARCHITECTURE IN AMERICA.

FOR a number of years past American architecture had drawn its most important influence from France. The movement has long since become so extended that inquiries into its origin and future are no longer of even academic value. It is a movement that, if it has not come to stay, has at least reached such extension that its limits are hard to discern and well nigh impossible to discover.

It owes its origin to the schools. No one ventures into the field of architectural work to-day without a more or less extended training in an architectural school. Exceptions there are to this, of course, but they are not many, and school training is now part of the regular equipment of the modern architect. Arrived at the architectural school, the young student finds the French system, so far as it can be adapted to American requirements, in full swing. The professor in charge has drunk long at the well of French ideas. He will have as his most important assistant a real Frenchman, whose knowledge of English may not even permit him to express himself colloquially in the language in which he must teach. The studies and problems of work are given out in French terms, and a sojourn in Paris is held up as the highest reward of scholastic acquirement, and as an absolute essential for all others who may not win the traveling scholarship, without which no American architectural school is fully equipped.

It is hardly necessary to say that an abode in Paris is not likely to lessen the young student's regard for things French in architecture and in art. Paris is a city of enormous attractiveness. The achievements in modern architecture that the student has heard about in America he now views with his own eyes. The classic halls of the Ecole des Beaux Arts are his. The atelier of a famous master is his. He brims over with enthusiasm and comes back with a polyglot language, in which French words instead of the good old Anglo-Saxon give a picturesque aspect to his talk. He now becomes the real thing, and even though his sojourn in Paris may have been of the briefest, he is at once eligible to admission to the Society of Beaux Arts Architects, New York. A glorious commission for some stupendous monument is all that he needs to complete his fame and fortune.

When such experiences are repeated for a number of successive years, and by an increasingly numerous body of enthusiastic young men, it is obvious that the extension of the French motifs among American architects must be very great. Our architects seldom return to Paris for renewed study—they are either too busy filling rich commissions or too poor to spare the necessary funds—but the youthful enthusiasm remains, and receives fresh impetus from each fresh reimportation of Frenchified Americans.

Some results have been obtained from this method that are not without value. Our architectural ideas and modes of expression have become more uniform. Architects no longer attempt every style under the sun, but are satisfied to translate their French ideas into American buildings. This is clearly to the good, for it means the concentration of effort along certain well established and clearly defined lines. Another important practical effect is that it is much easier to design in the academic styles than in any other. Classic architecture, as interpreted by the modern Paris-trained architect, is very easy to do. The subject has been thoroughly studied. Text books abound in which all the necessary data can be obtained by the simple process of copying. This helps amazingly in the production of works of architecture of a strong family likeness. This is very clearly to the bad; for architecture is not an “easy” art, and any movement which tends to make it so is retrograde and unsatisfactory. Moreover, the ease with which academic designs can be produced gives a vogue to the work of incompetent men, since, if no special effort is needed to design, very commonplace designers can produce tolerable results with materials that can be handled by rule of thumb.

So the Frenchification of American architecture proceeds merrily apace. For France, French architecture is, of course, the very form and style of architecture that should be used. It follows instantly that, for America, a French building is quite as exotic as one of Tangier or Mandalay. Yet the French buildings in America are not wholly French buildings. They are not even so much as that. They are French in idea, but American in expression and feeling. The adaptation is not complete.

Is it harmful? This is a serious question. It is harmful, because it is a forced movement. It is kept alive not of its own merit, but because of the personal inclinations of its practitioners. The French system of architectural study, it has been asserted over and over again, is a system of principles. Grant that this is so, the fact that those who have studied this system are, in the very large majority of cases, unable to design in any other style than the academic, goes with out contradiction. Academic training tends to formalism; it stifles originality, it promotes mediocrity. If its general average of results is fair, it is because the mediocre man is more numerous than the real genius, and the mediocre works, through the sheer force of number, overwhelm the occasional note of individuality that the man of real strength and power may put forth.

French architecture is also out of place in America because it originated and flourished under conditions wholly different from the very exacting conditions which attend the practice of architecture in the United States. Our most typical building is unquestionably the high building—the “sky-scraper,” as one French writer once put it. Nothing like this was seen before, and the admirers of the French styles hope that nothing like it will ever be seen again. Yet the high building appears to be essential to the requirements of modern American business; it has certainly given our architects their most profitable commissions, and it has vastly increased certain real estate values. Moreover, it is thoroughly useful and necessary to our business methods; alas! it is seldom beautiful.

It is on this typical, exacting, thoroughly American problem that French architecture fails and academic training is at a loss. Otherwise it is impossible to explain the grotesque failures our architects have made in attempting a solution of the high building problem. It is no solution at all to maintain that the problem is unsolvable, and should not exist. The fact is that it does exist, and our chief architectural model should be mobile enough to permit of intelligible and beautiful expression.

In the dwelling house the problem is somewhat different. Our most devout worshippers at the shrine of modern architectural France entirely fail in reproducing French ideas in the country dwelling, and it is most fortunate that this is so. Yet the French materials, the classic columns, the classic cornice, the classic feeling, is apparent on every country hilltop and by every waterside. The American architect knows now no other language than French. He does not realize the impropriety of reproducing historic French palaces in democratic America. He becomes as original as he dares, and in so far as his country houses depart from French ideas they are successful. Once more there is negative progress and negative satisfaction in results.



## NOTABLE AMERICAN HOUSES\*

By BARR FERREE.

## "DREAMWOLD"—ESTATE OF THOMAS W. LAWSON, ESQ., EGYPT, MASS.

THE transformation of a rocky New England hillside into the busy, active, and elaborate farm of "Dreamwold" is one of the most remarkable monuments to the tireless energies of Mr. Lawson. The raising and training of horses, dogs, cows, chickens, and ducks are here carried on to a most elaborate scale, and with a building equipment that makes this fine place not only of special interest in itself, but one of the most interesting estates in the country. So varied are the buildings, so complete the equipment, that, were a natural cataclysm to wipe out the remaining coast of Massachusetts, the quiet yet busy life of "Dreamwold" could still be pursued without feeling the severance of external connections.

"Dreamwold" commences at the railroad station, which is just without the main entrance. Some salient features immediately present themselves: the fences and posts of wood, painted white, and over-run with brilliantly blooming roses; the buildings with gambrel roofs, walls of gray shingles, white trimmings and green blinds give a characteristic note to the whole estate; features, by the way, determined by Mr. Lawson, whose own interest in his property has made it thoroughly personal and whose suggestions were ably carried out by his architects, Messrs. Coolidge & Carlson, of Boston.

The scale on which the farm has been planned is of great size and freedom, and with the deliberate intention of having a separate building for each separate purpose and use. The practical advantages of such liberality are, of course, very obvious, but it is seldom that such a scheme has been carried out in so liberal a manner, or, it is but truth to add done so well as here.

The buildings begin at the very entrance, for just within the gates are the lodge and the post office, the latter structure highly suggestive of the extent of the property and the great business carried on within it. The entrance roadway runs straight past a series of stables, each having a particular use, and each well spaced from each other. The private or carriage horse stable comes first; it is a long building with two unequal wings; the longer, for the horses, contains forty stalls; the carriage house is shorter; the passage between the two is for circulation and entrance, with rooms for the men above.

That the scale of "Dreamwold" may truly be styled sumptuous is apparent from the next building, the Riding Academy, a structure as large as Madison Square Garden, in New York, the great, spreading gambrel roof quite suggesting the mammoth trusses with

which it is spanned. It is brilliantly lighted by the great semicircular windows in the ends and by dormer windows in the roof, a building to which quiet and well deserved dignity is given by the careful treatment of the entrance front, and the very happy manner in which the vast window is given architectural form.

Large as the Riding Academy is, it is immediately surpassed in size by the Racing Stable, which is the next building, a structure eight hundred and sixty feet long. The stalls are arranged along one side of two immense wings, so that the horses all stand facing the south. The central building has, on the second floor, recreation rooms for the grooms and trainers, library, dining-room, kitchen, refrigerator, and bath-rooms. Dormitories fill the third floor, the men being lodged in alcoves, closed by curtains and with seven foot partitions open above to the ceiling.

Important as these three buildings are, they constitute but a portion of the separate and special stables

conditions most favorable for the special horses for which they are provided.

Besides these buildings devoted to the horses, the estate contains a polo field of nine acres, a training track and a racing track. The blacksmith shop contains a double forge and has space for shoeing eight horses, as well as equipment for doing all the forging of the farm.

Beyond the buildings and fields devoted to the horses come the poultry houses. These, in their way, are quite as varied as the buildings for the horses. Like them also they are at once practical buildings of rigid utility and architects' buildings of distinctively architectural interest. The hennery has twelve divisions, with scratching pens on the south and roosting and nesting rooms on the north; the long runs are enclosed with galvanized wire. Many special devices have been introduced for the proper care of the fowls. The keeper's rooms, heating apparatus and store rooms for grain are at one end.

The bantams have a separate house of their own, just high enough for the average man to walk through easily. It has a head house for feed and six separate divisions, with runs enclosed with wire and covered with movable wire screens. The pigeons, also, have their separate house, a low circular tower-like building of graceful form. Its yard is covered with wire netting. Within is an enclosed and covered passage which enables it to be inspected without entering the pigeon room. In the center is a stack for nests; the upper part is used for breeding purposes. A group of houses is provided for ducks.

The cow barn is another notable building. It is planned like a great U, with a large open rectangular courtyard. It is arranged so that the cows when standing in their stalls face the north. Food is thrown into the mangers from a cart driven through the passageway before the stalls. The cows are placed two in a stall, with separate mangers and a central water trough, which has an automatic cock and tank which keeps the water at a set level. Two stalls at the end are provided for bulls, which stand in the same line as the cows. One wing is set aside for the yearling stock, the other contains runs for calves.

The kennels are two hundred and twenty-five feet long and contain accommodation for large and small dogs. The head house has washroom, kitchen, storerooms, and refrigerator; in the second story are the men's rooms and space for the youngest puppies. The yards are

enclosed with wire and contain shelters. Kennels of different sizes are provided for various sized dogs.

Of the other buildings connected with the service of the estate mention need only be made of the sewage disposal plant, which is very complete and effective, the windmill and the water-tower. The windmill is of the type common in Holland, with a revolving roof; it is used for grinding corn and cutting up ensilage. The water-tower is quite unique, and has been developed into a graceful observation tower, containing a superb chime of bells. Its construction entailed some difficulties, since the outer shell must be kept free from the water tank. The solution was found in building the outer covering as a separate structure around the inner tank. A fire house is fully equipped with apparatus for extinguishing fires.

The mere enumeration of the buildings on the estate would in itself make clear the fact that a very large number of men were employed on it. Most



CONSERVATORY IN "DREAMWOLD"—ESTATE OF THOMAS W. LAWSON, ESQ., EGYPT, MASS.

built on this great estate. There are three stables for brood mares, a hospital and a foaling stable, all like the larger stables, rectangular in plan. The stallion stable is semicircular in plan. The stable for the farm horses is again of the rectangular type, and contains a carpenter shop and some of the farm wagons; the balance of the latter are housed in a separate shed one hundred and fifty feet long.

The real points of interest in these stables, however, is neither in their number nor in their variety, but in their equipment and furnishing. The widest experience and the utmost possible care have been employed in their fittings. The floors throughout are of wood, which, while subject to frequent renewals, has been deemed best for all purposes. Great care has been taken in drainage and ventilation. The fittings of the stalls, the construction and treatment of their wood and iron work, the devices for feeding and the care and delivery of the feed are in accord with the latest devices and the most advanced ideas, and display, at every point, the utmost regard for the special

\*Previous articles in this series: "BILTMORE," THE ESTATE OF GEORGE W. VANDERBILT, ESQ., BILTMORE, N. C., January, 1904. "THE GARDEN AT 'GEOGRAPHIC COLONY,'" THE HOUSE OF GEORGE J. GOULD, ESQ., LAKEWOOD, N. J., AUGUST, 1903. "HARBOR HILL," THE ESTATE OF CLARENCE H. MACKAY, ESQ., ROSLYN, N. Y., SEPTEMBER, 1903. "THE ORCHARD," THE COUNTRY SEAT OF JAMES LAWRENCE BRESEE, ESQ., SOUTHAMPTON, N. Y., NOVEMBER, 1903. "THE RESIDENCE OF W. L. STOW, ESQ., ROSLYN, N. Y., DECEMBER, 1904. "WHITE HALL," THE HOUSE OF HENRY M. FLAGLER, ESQ., PALM BEACH, FLA., JANUARY, 1904. "PAULXNER FARMS," THE ESTATE OF MRS. CHARLES F. SPRAQUE, Brookline, Mass., March, 1904. "THE HOUSE OF E. J. BELWIND, ESQ., NEWPORT, R. I., APRIL, 1904. "GREY CRAIG," THE ESTATE OF J. MITCHELL CLARK, ESQ., NEWPORT, R. I., MAY, 1904. "BLAIRSDEN," THE ESTATE OF C. LEYDARD BLAIR, ESQ., BERNARDSVILLE, N. J., JUNE, 1904. "KILDESBART," THE COUNTRY SEAT OF DANIEL O'DAY, ESQ., DEAL BEACH, N. J., JULY, 1904. THE ESTATE OF HENRY W. POOR, ESQ., TUXEDO, N. Y., AUGUST, 1904. THE COUNTRY SEAT OF STANFORD WHITE, ESQ., ST. JAMES, L. I., N. Y., SEPTEMBER, 1904.





THE LIVING-ROOM.



THE ENTRANCE DOORWAY.



THE TERRACE



THE DINING-ROOM.

"DREAMWOLD"—ESTATE OF THOMAS W. LAWSON, ESQ., EGYPT, MASS.—See page 71.

MESSRS. COOLIDGE & CARLSON, ARCHITECTS.





THE MANAGER'S HOUSE.



THE GATE LODGE.



THE POST OFFICE.



A COTTAGE.

"DREAMWOLD"—COTTAGE OF THOMAS W. LAWSON, ESQ., EGYPT, MASS.—See page 71.  
MESSRS. COOLIDGE & CARLSON, ARCHITECTS.





THE RIDING ACADEMY.



THE KENNELS.



THE INTERIOR OF THE CARRIAGE-HORSE STABLE.

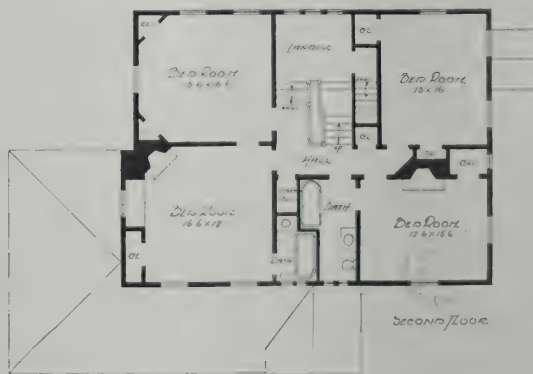
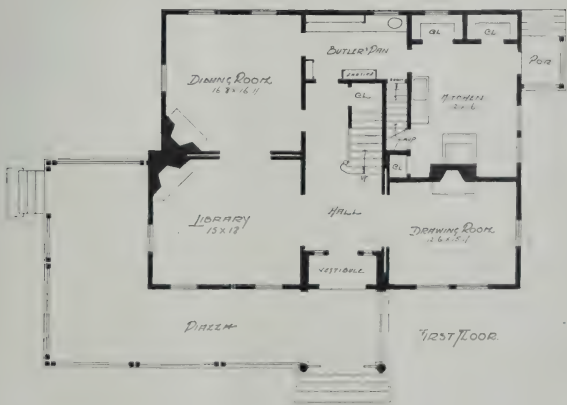


THE RACING STABLE.

"DREAMWOLD"—ESTATE OF THOMAS W. LAWSON, ESQ., EGYPT, MASS.—See page 71.

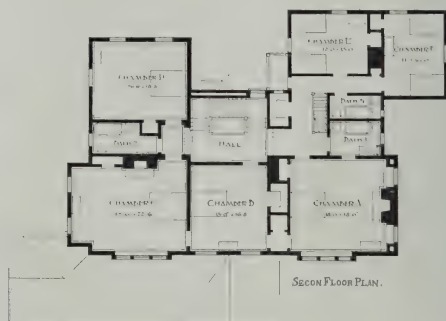
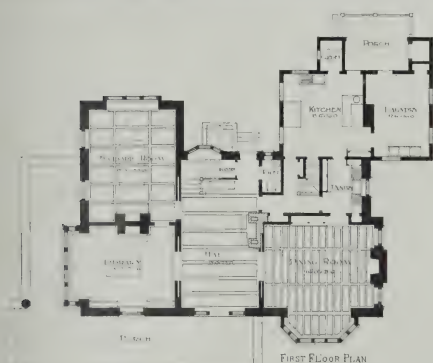
MESSRS. COOLIDGE & CARLSON, ARCHITECTS.





A HOUSE AT PLAINFIELD, N. J.—See page 86.  
MR. JOHN P. BENSON, ARCHITECT.





RESIDENCE OF WALTER CLOTHIER, ESQ., WYNNEWOOD, PA.—See page 86.  
MESSRS. BAILEY & TRUSCOTT, ARCHITECTS.





THE HALL.

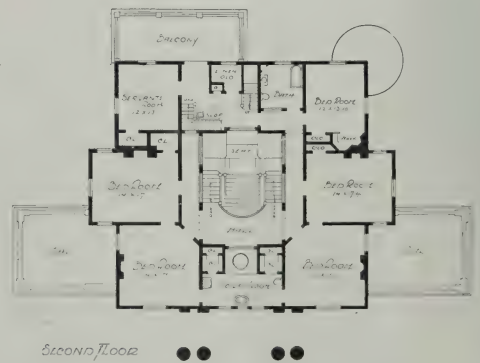
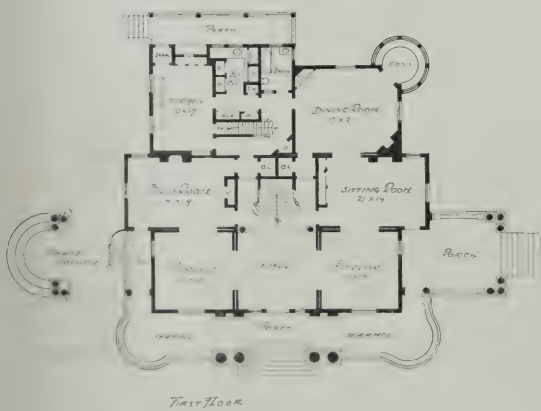


THE DINING-ROOM

RESIDENCE OF WALTER CLOTHIER, ESQ., WYNNEWOOD, PA.—See page 86.

MESSRS. BAILEY & TRUSCOTT, ARCHITECTS.





RESIDENCE OF E. W. WARFIELD, ESQ., CLAYTON, MO.—See page 86.  
MR. HERBERT C. CHIVERS, ARCHITECT.





A HOUSE AT WINCHESTER, MASS.—See page 88.

MR. THOMAS W. JAMES, ARCHITECT.

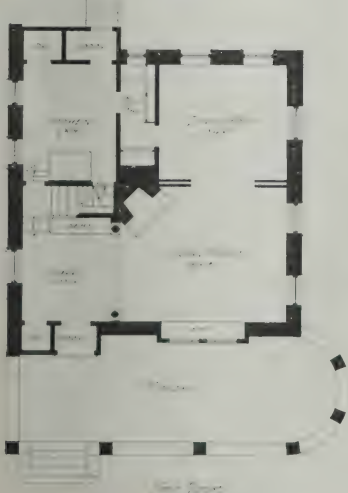




SECOND FLOOR



THE HALL.



FIRST FLOOR

A DWELLING AT MOUNT VERNON, N. Y.—See page 87.  
MR. HERBERT LUCAS, ARCHITECT.





ON THE ESTATE OF JAMES L. BREESE, ESQ., SOUTHAMPTON, N. Y.



ON THE ESTATE OF CLARENCE H. MACKAY, ESQ., ROSLYN, N. Y.



A FOUNTAIN IN ROCHELLE PARK, NEW ROCHELLE, N. Y.

A GROUP OF FOUNTAINS.—See page 87.





GROUND FLOOR PLAN



RESIDENCE OF J. BREAUCHARD, ESQ., PARK HILL, N. Y.—See page 87.

MESSRS. WARREN, SMITH & BISCOE, ARCHITECTS.





THE HALL.



THE STAIRCASE.

RESIDENCE OF J. BREAUCHARD, ESQ., PARK HILL, N. Y.—See page 87.  
MESSRS. WARREN, SMITH & BISCOE, ARCHITECTS.



# L'ART NOUVEAU IN THE GERMAN EXHIBIT AT ST. LOUIS WORLD'S FAIR.

If we except the stately and very beautiful reproduction of the Castle of Charlottenburg, which forms the home of the German Imperial Commission at the St. Louis Fair, unquestionably the finest section of the splendid German display is that of the Arts and Crafts, which finds a home in the Varied Industries Building. Of this exhibit the most comprehensive feature is the Grand Court of Honor and the garden into which it leads, with the wonderful succession of artistic interiors that are grouped in orderly succession around these two. The Hall of Honor and the surrounding rooms are a study in L'Art Nouveau, and we venture to say that any one who makes a careful study of the whole exhibit will find himself in a position to form an individual judgment as to the merits of this much-discussed style. As every one knows, the great defect which is charged up against the New Art is that it does violence to the fundamental principles of structural and decorative work. In the present German exhibit, however, the artists, it is claimed, have taken due notice of this criticism, and the whole exhibit has been planned with a view to harmonizing accepted principles of construction with the best feature of the New Art. The masters who designed the various rooms claim to have carefully preserved in their forms and decorative treatment much that is best in architectural and decorative tradition, while at the same time they have retained the elements of the New Art which give it, in the eyes of its admirers, its peculiar charm. In all candor it must be admitted that the claim is made good, for the principles of the arch, the colonnade, and the open-rafter roof are united and harmonized, while the scheme of decoration, which is dainty but never trivial, diversified in coloring, but never vulgar, serves to give a distinctive atmosphere to this remarkable exhibit that will leave a lasting impression on every one who has made it the subject of serious study.

There is one fact underlying the designs of each of the separate rooms to which special attention should be called, and this is that each room was designed in its entirety, even in the minutest detail, by one man. It is considered in Germany that the best results can be obtained only in this way; so, instead of an architect designing the room; a decorator, the paper; a cabinet-maker, the furniture; an upholsterer, the carpets and hangings, with the loss of harmony which must result, all these elements are carefully thought

The other interior is that of a directors' meeting room, and it represents one of the most successful interiors of the whole group, the simplicity and severity of the furniture and of the interior trimming of the room being simple and dignified, and well suited for the purpose to which it is to be put.

## THE OWNERSHIP OF ARCHITECTS' PLANS.

AN important test case, "Gibbon vs. Pease," raising afresh the architect's right to retain plans, which was supposed to have been settled against the profession in a celebrated suit nearly four and thirty years ago, will be opened shortly in England in a new action. It is brought by a building owner for whom some property at Paddington was converted into flats, against the architect for the return to him of all plans, specifications, papers, and minutes, including all copies of such general particulars relating to the work. The building owner also demands of the defendant architect the "return of all estimates, tenders, contracts, bills of quantities, and copies of letters to and from the client relating to the plans, specifications, or contracts." The architect, who was employed at the usual 5 per cent. commission on the amount of the accepted tender, deems it his duty, in the interests of the profession, to refuse to deliver up the plans, the whole of the contract having been completed and the fees paid. In an earlier case the plans were prepared for a vicarage, but were never carried out. Well known architects were called to prove the custom of the profession to return the plans whether the works were executed or abandoned; and, on the other hand, other architects deposed that when the works were completed it was the practice of architects to retain the plans; but when the building was not constructed, the plans were offered to the client as a matter of right. The Lord Chief Baron withdrew the question of custom from the jury, and the Court unanimously gave judgment against the architect's claim. One or two other cases have come up since from time to time, but without any important rulings or judgments.



DINING-ROOM.

out by one man. Hence, instant impression made upon the visitor is one of perfect harmony of proportion, form, color, and general design. We present illustrations of two interiors on page 85. That of the study of a sitting-room by Professor Muller would indicate that he is in sympathy with the school which has the preference for plant forms rather than for combinations of pure line. The wood paneling has been treated chemically, with the result that the surface has a delicate gray tint, which is extremely pleasing.

executed or abandoned; and, on the other hand, other architects deposed that when the works were completed it was the practice of architects to retain the plans; but when the building was not constructed, the plans were offered to the client as a matter of right. The Lord Chief Baron withdrew the question of custom from the jury, and the Court unanimously gave judgment against the architect's claim. One or two other cases have come up since from time to time, but without any important rulings or judgments.



LIVING-ROOM.

RESIDENCE OF J. BREAUCHARD, ESQ., PARK HILL, N. Y.—See page 87.  
MESSRS. WARREN, SMITH & HISCOE, ARCHITECTS.





STUDY OF AN INTERIOR—GERMAN EXHIBIT, PALACE OF VARIED INDUSTRIES, ST. LOUIS.



DESIGN FOR A DIRECTORS' ROOM—PALACE OF VARIED INDUSTRIES, ST. LOUIS.

L'ART NOUVEAU AT THE GERMAN EXHIBIT AT ST. LOUIS WORLD'S FAIR.—See page 84.



"DREAMWOLD"—ESTATE OF THOMAS W. LAWSON, ESQ.,  
EGYPT, MASS.

(Continued from page 71.)

of the men connected with the special buildings are housed in them. Any farm laborers are housed in the farm houses, and the managers of the different departments have their own cottages. All of these residential houses are charming structures, carefully planned and built, and thoroughly complete in every respect.

The chief residential interest of "Dreamwold," however, naturally centers in Mr. Lawson's own farm house, called "Dreamwold Hall." This is a thoroughly comfortable house, amply adapted to the personal needs of the owner, spacious enough for the accommodation of a large number of guests, and finished and furnished in a thoroughly characteristic manner. It is built in three parts, the central or family building, the guest wing and the service wing, both of which are connected with the main house by enclosed passages.

There is a quiet sobriety in the design of this house which is very happy. As in all the other buildings of the estate, the gambrel roof is the dominant feature of the exterior. A generous gable emphasizes the main entrance, which is beneath a porch supported by Ionic columns. A single triple window on each side of the porch completes the treatment of the lower story of this front. Above is a three-light window in the gable end, with a semicircular pediment over the central opening, and two outer smaller windows. The roof contains two dormers on each side. The design of the other front is quite different. Instead of a single central gable, there are two, one at each end. A large bay window projects from the first story of one of these gables, and each contains a smaller bay window in the upper story. There are no dormers in the roof; but instead of a sloping roof between the gables, the wall is built vertically, and contains a series of rectangular windows. This front is enclosed within a shingled terrace, a roofless porch, decorated with flower boxes, brilliantly ablaze with flowers, and bay trees. The wings vary somewhat in their external treatment, and have no gables on their fronts. They are, however, well harmonized with the central building and subordinate to it.

The layout of the plan is quite simple. The family house has but three rooms on the ground floor: a hall in the center; to the left is the living-room; to the right the dining-room. The passage beyond the living-room forms a conservatory and connects with the guest wing, which contains the library and the billiard-room on the ground floor, with the guest rooms above. The right wing is given up to the kitchen and service, with sleeping quarters for the servants in the upper story.

The wide portal opens a generous welcome to the guest. A short flight of steps leads to the spacious hall. It is walled throughout in curly birch, in panels stained a greenish black, a rich, deep color that is unusually handsome. The ceiling, which is white, slightly green tinged, is decorated with festoons of farm fruits: corn, pears, apples. A lantern depends from the center of the ceiling, and on the side walls are many specially designed side brackets. The floor is of hardwood, covered with a richly colored rug.

Like the hall, the living-room has paneled walls, a warm gray in color. A painted frieze is carried along the top, the motifs of which are heads of domestic animals and festoons. The ceiling is beamed and tinted. The wood mantel embraces a bricked and tiled fireplace, the latter decorated with grapes and vine leaves in color, with rabbits sporting in the foliage. A wrought iron crane and andirons of special design complete the furnishings of this important feature. The mantel shelf gives room to many elephants, the collecting of which is one of Mr. Lawson's specialties. Elephants of all kinds and sizes, of porcelain and ivory, of wood and metal. They throng the house at every possible place, and constitute a special feature of this interesting interior, as well as form a collection of very great variety and interest. In one corner of the room is a large organ, with the pipes sunk below the floor and resounding through an ornamental lattice above the keyboard.

The conservatory opens directly from the living-room, and is a broad passage lighted by large elliptical windows on either side. The white vaulted ceiling is painted with green trellises and grapevines. The walls and floor are tiled, the prevailing color being green. It leads to the guest wing, on the ground floor of which are the library and billiard-room. The dull black in which the library is finished forms a fitting setting to the large collection of brilliantly bound books with which it is furnished. The vertical divisions between the shelves are surfaced with carved panels, in which gnomes and other mimic figures pass through various stages of life and activity—strange, curious stories, fascinatingly told. The frieze of many painted panels, chiefly illustrative of bookish themes, was designed by Russell G. Crook, the broad tiles over the fireplace having oxen drawing a cart. The billiard-room has walls of canvas painted with fields of corn,

and a beamed ceiling. The prevailing color is a gray brown.

The dining-room, which is on the opposite side of the hall from the living-room, is very large and handsome. A large semicircular bay window fills most of one end, and overlooks the terrace at the back of the house. It is finished in oak, of a soft brown, sandal-wood color, a tint obtained by soaking the wood in acid for several weeks. The heavily beamed ceiling is deeply ribbed, the beams being supported on carved capitals or consoles. The walls, which are wholly lined with wood, contain painted panels, and many built in glass cabinets for the splendid cut glass of which Mr. Lawson has a notable collection. The elliptical panels in the frieze are filled with boldly colored farm scenes. The central light is a pumpkin, hung up on its own stalk in metal and rich glass, glowing brilliantly when illuminated. Pumpkins also, on a dark blue background, form the decorative feature of the mantel.

Several very marked features distinguish this house. It is thoroughly modern—a fact quite sufficiently notable in this day of houses furnished with old things from every possible source to be specially mentioned. All of the furniture has been made expressly for the house, but in good, comfortable, modern designs, in very happy keeping with the modernity of the whole estate. The decorative features, the carvings, the tiles, the painted decorations, all reflect and illuminate the farm life which is at once the delight and the origin of "Dreamwold." On the whole this has been done with very proper restraint and in a very effective manner. Novel decorations have been provided which are applied exactly where they are needed, and which give a note of freshness and originality to the whole house.

A very marked feature has been the attention given to the metal work. This is all of a very high grade and of very striking original interest. Mr. Lawson's taste in this respect is amply illustrated within the house in the lighting fixtures and the metal of the chimneyplaces; but long before one has reached the house the fact that this is a place of a true iron lover has been shown by the signs attached to the various stables and other buildings. These are all specially designed, and very charmingly designed, the leading motif of each being the animal, and the kind of animal, for which the structure to which it is attached is intended. The lights on the grounds are of the same distinctive character, many iron lanterns for the electric lights being fastened to cedar trunks, now well overgrown with vines.

"Dreamwold" being a stock farm, it is the farming side of country life that is its chief characteristic. The stables and sheds, the training track and polo grounds form the chief point of interest. Unlike many country places, it has no great flower garden as the chief outer point of interest. Mr. Lawson, however, is keenly alive to the value of flowers. His miles of fences, covered in large part with crimson ramblers, is an early indication to the visitor of his love for flowers. And not far from the house is a vast garden of perennials, growing freely and somewhat wildly, not a cultivated garden in the modern sense, but a garden of brilliant bloom, growing and blooming as nature herself directs, a lovely note of color in the quiet nature-life of the Massachusetts coast.

RESIDENCE OF WALTER CLOTHIER, ESQ.,  
WYNNWOOD, PA.

THE residence which is illustrated on pages 76 and 77 was recently completed for Walter Clothier, Esq., at Wynnwood, Pa. It is treated in the English style of stone and half-timber. The underpinning and first story are constructed of local quarried stone with rock-faces and laid with wide mortar joints. The second story is beamed with chestnut in the form of half-timber work, and the spaces between are filled in with stucco work. The beams are stained a soft brown color. The roof is covered with shingles and left to weather finish. Dimensions: Front, 72 ft.; side, 60 ft., exclusive of piazza. Height of ceilings: Cellar, 7 ft.; first story, 10 ft.; second, 9 ft.; third, 8 ft.

The hall, which is central, is trimmed with oak, and has a wainscoting of battens finished with a heavy molded cap, and the ceiling is heavily beamed. The fireplace is furnished with 2 x 3 tiled brick head facings and hearth, and a mantel shelf resting on massive corbel brackets. The staircase is an ornamental one with its broad landings and treads.

The library is trimmed with cherry, and has a wainscoting and bookcases built in. The ceiling has a wooden cornice. The fireplace has a tiled hearth and facings and a mantel. The billiard-room also has a trim of cherry and an open fireplace furnished in a similar manner. The walls of this room have a wainscoting and a beamed ceiling.

The dining-room is trimmed with cherry finished with a mahogany treatment. It has a paneled wainscoting and a beamed ceiling. It also contains a buffet built in, and an open fireplace furnished with a tiled

hearth and facings and a mantel. The kitchen, pantry, and laundry are trimmed with chestnut, and each is fitted up with the best modern conveniences. The toilet is conveniently located and is fitted up complete.

The second story is trimmed with white pine, and is treated with white enamel. It contains four bedrooms and two bathrooms, besides two servant bedrooms and bath over the kitchen extension. The third floor contains four bedrooms and bath, and also a trunk room. A cemented cellar contains the heating apparatus, fuel rooms, cold storage, etc.

Messrs. Bailey & Truscott, architects, 421 Chestnut Street, Philadelphia, Pa.

RESIDENCE OF E. W. WARFIELD, ESQ.,  
CLAYTON, MO.

THE E. W. Warfield residence, at Clayton, Mo., shown on page 78, is of modern Colonial style. The cut stone work around porch is of Carthage stone with bush-hammered surface. The porch floors are all of tile and the roof of light green slate, with copper gutters and flashings. The basement is partitioned off and contains a wine cellar, laundry, laundry drier-room, houseman's room, vegetable-room, and servants' bathroom.

The main hall and stairs is of oak, with heavily paneled ceiling. The windows at rear of the hall and at the second story hall present paintings burnt into the glass. At the sides of the second story hall there are three paneled arches. The stairs are highly ornamented with wood carvings. The walls of the two parlors are covered with brocaded silk and the ceilings are heavily ornamented and tipped in gold, with flying cupids painted in the circular central panels. The back parlor has an oval panel in ceiling, with painting entitled "Morning and Night." The library is wainscoted in panels of Spanish leather, with a painted procession in the frieze and gold ceiling. The dining-room has a similar ceiling with high wainscoting and Dutch water scene in the frieze, painted in rich sienna on gold-faced burlap, giving a fine, highly-lighted monotone. The woodwork in this room is of very dark oak, and the mantel facing is of gold-glass mosaic. The ceiling to conservatory is also of gold on burlap, glazed with Japanese lacquer. The facing around flower-trough is of gold-glass mosaic and the floor of tile.

The front chambers are finished in mahogany, with paneled ceilings. The dressing-room between is lined with opalite white tile, with solid porcelain fixtures. The burglar alarm is also in this room and is arranged to light up all porches when an alarm is given.

The third floor is one immense ballroom, with paneled glass ceilings, with lights above the glass.

Herbert C. Chivers, architect, St. Louis, Mo.

A HOUSE AT PLAINFIELD, N. J.

THE quaint and interesting little house shown on page 75 was erected for John P. Benson, Esq., at Plainfield, N. J. The piazza, the trellis about the front entrance porch, and the small lighted windows are noticeable. The underpinning is built of brick laid in red mortar. The superstructure, of wood, is covered with shingles stained a soft brown color, and the trimmings are painted white. The roof is also covered with shingles and is finished natural.

The hall, a central one, is entered through a vestibule, and is trimmed with whitewood painted white. It has a staircase of Colonial style. To the right of entrance is the drawing-room. It is trimmed with whitewood, treated with ivory white, and has an open fireplace built of brick, with tile facings and hearth and a mantel. The library and dining-room are also trimmed with whitewood and are finished in a dark soft brown color. They have open fireplaces, built of brick, with the facings and hearth of the same, and mantel. The butler's pantry and kitchen and its dependencies are fitted up with all the best modern conveniences.

The second story is trimmed also with whitewood. Two of the bedrooms are finished natural and the remainder are painted. This floor contains four bedrooms, with ample closets, linen closet, and a bathroom, the latter treated with white enamel and furnished with porcelain fixtures and exposed nickelplated plumbing.

There are two servant bedrooms and bath and a trunk room on the third floor. A cemented cellar contains a laundry, heating apparatus, and fuel rooms.

Mr. John P. Benson, architect, Windsor Arcade, Fifth Avenue and Forty-seventh Street, New York.

THE three years (1901-1903) have been years of falling wages in England, but the amount of the fall in 1903, measured in weekly loss of wages, was comparatively slight, being considerably less than in either of the two preceding years, though spread over a larger number of trades; 396,598 workpeople were affected by changes in wages in 1903, as compared with 890,356 in 1902 and 932,126 in 1901.





## A NEW COOPERATIVE SCHEME.

THE newest suggestion for cooperative housekeeping hails from Bergen, N. J., where on a single block are to be erected one hundred eight-room houses, with electric lights, steam heat, hot water supply and a central pavilion in which will be a large dining-room run by a caterer, a smoking-room and a roof garden with weekly music. The houses are to be two stories in height, the first floor to contain a parlor, a library in the front, a large reception-hall, and a dining-room and kitchen in the rear, while on the second floor will be four sleeping-rooms and a tiled bathroom. At the back of the house, or the center of the block, will be a three-story pavilion of steel and glass, the basement of which will contain boilers for steam heating and dynamos for lighting. The first floor will have a large dining-room with kitchen, the second floor a large reception hall, smoking-room for gentlemen and a ladies' room, while the third floor will contain offices for the association which will own the property, and the roof will be turned into a garden, with music weekly.

It is claimed that all this can be furnished at moderate cost to each family, not exceeding \$35 per month, including rent, interest, sinking fund and all other expenses. While the houses are building a small sum will be paid by each stockholder for the creation of a sinking fund.

## ELECTRICITY IN THE HOUSEHOLD.

As electricity is being so widely used in industrial operations and experimental electrical cooking and heating apparatus are being freely exhibited, it is not strange, points out the Metal Worker, that many engaged in household work should look to this agent for a similar relief to that enjoyed in other fields. Some of the foremost electrical engineers have devoted no small amount of time and research along the lines of implements for doing household work, so far as the heating is concerned, with electricity. Unfortunately, as yet, the use of electricity is governed entirely by the cost, and for many of the uses to which it could be put with advantage to the housekeeper, it is out of the question, owing to the great expense involved in its employment. As electric radiators are used for heating cars, it would seem that where the electric wires run into a building to supply light it would be but a small matter to use electric radiators, with all the attending convenience, for heating; but the all important factor of dollars and cents still constrains the average householder and building owner to rely upon the old methods of heating. The daily papers frequently discuss methods of heating water for bath and other purposes by means of electricity, showing how the wires from the ordinary lighting globe have only to be connected with some special apparatus to insure a current that can be turned on until the water has reached the desired temperature. In this last point, however, lies the whole trouble. To heat any considerable amount of water by electricity requires more time than to accomplish the same amount from the gas jet or by other methods that are not only more familiar, but more satisfactory, as they are quicker, to say nothing of being infinitely cheaper. One of the latest ventures on the part of electrical manufacturers is the production of a baking oven, designed for use where electricity is available, as in large hotels, restaurants, etc. The principal advantage claimed for this device is that the oven can be maintained at any temperature desired, steadily, without fluctuation and continuously. Here again, however, the all important feature of cost must be taken into consideration. Doubtless, in many of the hotels and restaurants where the patrons are willing to pay forty cents for a chocolate éclair which can be purchased in a light lunch buffet for five cents, the electrical oven may be used. It is probable, however, that, so to speak, the chef, in the average kitchen, will continue to "stew in his own grease," with the charcoal, coke, or coal fire to do his cooking and baking, at least until the cost of electricity and the keeping of the apparatus in order, to say nothing of its first cost, comes down to the level of the cost of coal and coal burning apparatus. That there is a cleanliness and convenience attending the use of electrical heating and cooking apparatus is one of the strong inducements for the public to utilize them, and for the electrical engineers to continue their endeavors to surmount the all important barrier of dollars and cents; and, in view of the advance made in other fields in recent years, none but a confirmed skeptic would feel confident that the convenience and pleasure to be secured from the use of electrical household apparatus are still a long way off.

## RESIDENCE OF J. BREAUCHARD, ESQ., PARK HILL, N. Y.

THE large Georgian, or Colonial, house which is illustrated on pages 82, 83, and 84, was recently erected for J. Breauchard, Esq., at Park Hill, N. Y. It is built of red brick, with a light gray brick for the trimmings and dark bottle-green shutters at the second and third stories. The porches at the front, the one opening into the garden, and the piazza at the rear are well arranged, and bear a good relation to the interior plan. The whole is surmounted with a copper roof, pierced with many dormer windows of attractive proportions.

The arrangement of the interior rooms is well shown on the plans. Upon entering the front vestibule a vista is obtained through the entire hall, passing in through the opening into the living-room and on to the nook which opens out on to the rear porch. The hall is handsomely treated in white enamel, and it has a fluted pilaster effect with Ionic caps, above which there is a massive frieze for the cornice. The staircase is recessed into a circular form with fluted Ionic columns, which form the newel posts. The treads are of oak, and the rail is of mahogany. Opposite the staircase is the reception hall, treated in a similar manner as the hall, and with an entrance on to the porch. The walls in this reception hall and the hall itself are covered with old rose silk.

To the right of the entrance is the dining-room, which is trimmed with mahogany. It has a china closet built in, with leaded glass doors, and an open fireplace built of brick, with the facings and hearth of the same, and a mantel handsomely carved. To the left of the entrance is the den, which is finished in golden brown oak. There is a paneled wainscoting five feet in height, bookcases built in, and a fireplace, with red brick facings and hearth, and a mantel.

The living-room, of large dimensions, is trimmed with oak finished in golden brown. The ceiling is heavily beamed, and the wall is provided with a low paneled wainscoting. Between the wainscot and the wooden cornice the wall is covered with blue burlap. The fireplace has tiled facings and hearth, and a carved mantel with a paneled overmantel. The rear hall and stairway, the coat room and toilet room are conveniently located. The china closet is fitted with bowl, drawers, dressers, and cupboard complete. This china closet and the kitchen and its dependencies are treated with white enamel, and are furnished with all the best modern conveniences.

The second floor is trimmed with pine and treated with white enamel. It contains a large open hall, four bedrooms, sewing-room, linen closet, and two bathrooms, the latter furnished with porcelain fixtures and exposed nickelplated plumbing. The rear hall forms a private way to the third story, which is provided with a billiard-room, two guest rooms, trunk room, and the servant rooms and bath. The cellar, cemented, contains the laundry, heating apparatus, fuel rooms, cold storage, etc.

Messrs. Warren, Smith & Biscoe, architects, 120 Boylston Street, Boston, Mass.

## A DWELLING AT MOUNT VERNON, N. Y.

THE modern dwelling illustrated on page 80 was completed for Edwin J. Lucas, Esq., at Mount Vernon, N. Y. The underpinning and the first story are built of rough rubble field stone. The second story, of wood, is covered on the exterior framework with matched sheathing and then cedar shingles, which are left to weather finish. The roof is also covered with shingles. Dimensions: Front, 34 ft. 6 in.; side, 38 ft. 6 in., exclusive of piazza. Height of ceilings: Cellar, 7 ft.; first story, 9 ft.; second, 8 ft. 6 in.; third, 8 ft.

The hall and living-rooms are trimmed with white pine treated with ivory white enamel. These two rooms are separated by an archway, supported on fluted Ionic columns. The stairway has oak treads, painted risers, posts and balusters, and a mahogany rail. The ceiling is beamed, and there is a paneled wainscoting, and also a seat at the side of the staircase.

The living-room has a high paneled wainscoting the same as the hall, and the walls above this wainscoting are covered with crimson burlap. The ceiling is beamed, the bay window has a paneled seat, and the large open fireplace is built of rubble field stone with a hearth of brick, and a shelf of stone, rough hewn. The dining-room is trimmed with chestnut, and is finished with a soft brown color. The butler's pantry and kitchen are well fitted up with the best modern conveniences, and the lobby is large enough to admit an ice box.

The second story is treated with white enamel trim and mahogany doors. It contains an open hall, four bedrooms, and a bath, the latter being tiled and furnished with porcelain fixtures. The servant quarters and trunk room are placed on the third floor. The cemented cellar contains a laundry, furnace, and fuel rooms.

Mr. Herbert Lucas, architect, 1133 Broadway, New York.



## A WORD ON FOUNTAINS.

FOUNTAINS are among the most costly and sumptuous of garden ornaments. They presuppose and demand an environment of considerable extent. Moreover they require a surrounding so planned and arranged that the fountain itself occupies a natural place, adding to the beauty of the whole scheme.

Falling water is among the most beautiful of natural phenomena. In a literal sense a fountain is a device to introduce falling water into a garden. In itself obviously artificial and unnatural, it needs an artistic medium through which it may be introduced, and the sculptured fountain is called into being. Thus the most difficult of the arts—sculpture—and the simplest of natural phenomena—falling water—are combined to produce this very beautiful garden ornament.

The beauty of the fountain from the garden point of view consists in its fitness. A large fountain, environed in ample space, as the fountain on the Mackay estate, at Roslyn, Long Island, N. Y., illustrated on page 81, is a work of striking beauty. In this particular instance all the elements help in producing a very beautiful effect. The fountain stands on a lawn of vast spaciousness that slopes away from one side of the house. The area of this space is truly regal, so great, in fact, that there is a very real sense of distance. The fountain is happily placed at exactly the right distance from the house; near enough to be quite visible, far enough away to give value to the great stretch of green on which it is placed. The statues beyond, on the borders of the lawn, are likewise admirably placed, and add immensely to the effect of distance. And, then, as a crowning element in the successful disposition of these various objects, are the heavy masses of trees, enclosing and bounding the lawn, truly besieging it with their rich green foliage, and yet in no sense overshadowing it. In itself elaborate and interesting as a work of art, it is the situation and surroundings of this fountain which constitute its chief charm. It is a very interesting and beautiful illustration of the right use of a large fountain.

Not less successful is the very modest fountain that stands in the fine estate of James L. Breese at Southampton, Long Island, N. Y., illustrated on the same page. It offers every possible contrast to the Mackay fountain, but is not the less beautiful, nor is it of less value as an illustration of the proper use of fountains. It is an exquisite little vase, with a moderate jet of water that falls gently over it. It is a fountain that, at first thought, might seem available for almost every locality, and might, perhaps, need no special environment. Yet a glance at the photograph shows at once that the environment helps it and distinguishes it as nothing else could. The paved path is broken by the circle in which it stands—a lovely pool admirably proportioned and bordered with foliage. The brilliant blooms of the flower borders, the shrubs, the trees, which seem of exactly the right height, all help in producing a beautiful ensemble.

Quite as interesting, but illustrative of a different treatment, is the fountain in Rochelle Park, New Rochelle, N. Y., likewise shown on the same page. The situation is wholly new, for it stands on a graveled path that swells into a circle on the border of a lawn. The lower pool is here a flower bed, crowded with brilliant color, and the surrounding path is bordered with beautiful shrubs. The fountain forms a charming episode in the landscape, and is very happily placed.

These three examples, therefore, are fine illustrations of the value of fountains in suitable environments. They show the fountain at its best. They show that the fountain must suit the garden, and the garden must suit the fountain. Taken as a whole, these photographs constitute an interesting and highly suggestive study in landscape architecture and in garden design.

## HOT-BEDS.

By the use of hot-beds and frames many species of biennials, says a practical gardener, may be converted into annuals, with advantage to the grower. Among the more important of these are the East Lothian and other stocks. To be successful, the hot-bed should be made up quite early in the year, and so constructed as to afford a gentle heat over a long period of time. With this end in view, it is advisable to use about two-thirds of stable-litter, the whole mass of materials being thoroughly mixed and trodden down firmly to a depth of about 30 inches, even deeper. Though the soil need not be prepared and put on the bed as yet, it is advisable to put the frames and lights on the beds as a protection from snow and rain.





### NEW YORK FIREPROOF HOUSES.

The construction of steel and stone office and public buildings, which are practically fireproof, says Mr. G. E. Walsh, in the Architects' and Builders' Magazine, has inaugurated a new era in city building methods, and has gradually created a sentiment that all city structures should be made fireproof.

It is only recently that architects have been called upon to consider fireproof houses built for single families. It has always been supposed that a single family occupying a private house was safe from all the dangers which threatened those living in hotels and apartment houses. But in the past few years most disastrous losses of life and property in some of our handsomest New York residences have caused a feeling of insecurity that is rapidly creating a demand for new kinds of houses. Fireproof residences for single families have been built in New York recently which are considered as safe as any of the steel and stone office structures that tower so far above ordinary buildings down town. The cost of these houses is a factor that figures in their construction in no small way.

The more pretentious and costly a home in a city may be, the greater apparently is the danger from fire, for within such houses costly relics of art and science are packed, furnishing inflammable material that proves dangerous in an emergency. In constructing private dwellings in the past, little attention has been paid to fire escapes, and consequently the crowded tenements in some respects were safer because of the safeguards required by the building and police departments. To-day, however, the private dwelling is receiving the attention that it deserves in this respect, and it may be that within the next decade the new homes put up will all be comparatively safe from dangerous fires.

The various automatic fire-warning devices which have been invented are only approximate solutions to the problem. If they do not work instantly when needed they are of little use, and many of them get out of order very easily. They are good adjuncts to the modern fire department, but they will not of themselves insure the safety of the occupants. The only way to do that is to construct fireproof homes, as we have built fireproof hotels, apartment houses, and office structures.

The modern type of fireproof homes which has appeared in New York in the past two years is expensive because of the material and slow method of construction. Old methods of building have been discarded, and the builder brings into use the materials and methods employed in putting up an office structure. The first two or three lower tiers of beams are of iron instead of wood, and the walls are filled with fireproof material. The floor which separates the cellar from the first story of the house is also constructed of fireproof blocks, which in some cases are extended up to the second floor. These iron beams and fireproof floors and partitions of the cellar and first story or two make confagurations from below almost impossible. The cellar and kitchen are the source of most fires, and by shutting them off from the rest of the house the danger of fire is greatly lessened. In some of the early experiments with fireproof materials, the metal lath was used in the walls, and it was supposed that this would be sufficient to prevent disastrous fires. But they have given way now to the more substantial walls with iron beams and fireproof packing materials.

Some of the new type of fireproof houses have the fireproof material running up only to the second floor, and above that the wooden floor beams and wooden stud partitions are used, as in the old style. But many of the newer ones are built fireproof throughout, with all beams of iron and filled in solid with fireproof material. In this fireproof packing of the walls all the electric light wires, steam pipes and flues are encased, making it impossible for any fire to start from any one of them. Where houses are old, fires are frequently started in the walls by electric wires, flues, or steam pipes, which overheat the air enclosed in the walls, and combustion starts easily. By making the material occupy all the ordinary air space there is little room for combustion to start, and absolutely no inflammable material to burn if a spark could ignite in the walls.

The stairway and hall have always proved natural chimneys up which fires in the basement of a private residence would burn, and fanned by the draft drawing up the stairway a small fire would leap quickly from one floor to another, practically enveloping the whole house in flames before the inmates could be aroused. As a special safeguard against any such acci-

dent, the modern fireproof home is in some cases provided with a fireproof interior enclosed staircase. This is a novel feature that has proved somewhat popular in expensive houses, especially where electric elevators are also installed for common family use. The staircase in such houses is generally placed as near the middle of the building as possible, and it extends the full length of the house from cellar to roof. The staircase is built entirely of metal and has no wood or inflammable material surrounding it. The steps themselves are usually of slate or marble. The enclosure is built entirely of fireproof material, and it is both waterproof and smokeproof. On each landing there is a fireproof door, which swings on automatically-closing hinges, and this is always kept closed night and day except when a person is passing through. The staircase has an entrance through the cellar to the street and also straight up to the roof. It might also serve as a burglar-proof staircase, for any one entering the house on the lower floor would have difficulty in reaching the floor above if the doors were locked.

The fireproof staircase is invariably provided with an electric elevator, for while the construction of such buildings will induce people to sleep on the third and fourth floors, additional provision for going up and down so many flights of stairs is demanded. Consequently the electric elevator has become an important part of the new type of city home. These elevators have become popular features of all the four-story houses, and they will soon be almost as generally used as the elevators in hotels and office buildings. They require no man to operate them other than the passenger ascending or descending. By pressing a button the elevator goes up or down, the doors closing and opening automatically when the button is pressed and released. The modern electric elevator in private city homes combined with fireproof methods of construction have added greatly to the living space. It is not uncommon now to have some of these houses five and six stories in height. The top floor is usually given over to the servants' rooms, while the next floor is used for the nursery and general playground for the children.

The fireproof homes further increase the floor and living space because of the difference in the thickness of the walls. The fireproof walls are much thinner than the walls of wood and brick, and it is estimated that from 10 to 20 per cent. more space is obtained in the new buildings in this way. This consideration alone is important in a city where land sells so high as in New York, and the gain obtained in this way adds greatly to the selling value of the house. Owners, as well as architects and builders, are emphasizing this point. Nearly all the partitions, though much thinner than the wooden ones, are practically soundproof, and noises seldom penetrate from one to another.

### A HOUSE AT WINCHESTER, MASS.

The house illustrated on page 79 was erected for Captain P. A. Nickerson, at Winchester, Mass. To build the house in harmony with the characteristics of its surroundings, it has been designed with a strong "English" feeling, as is shown by the half-timbered work used in connection with the shingle work of the exterior. The underpinning is built of rock-faced stone laid up at random. The shingle work of the superstructure is stained and finished in a rich silvery gray color, while the trimmings are finished in a soft brown color, the beams in the gables particularly harmonizing with the yellow-tinted plaster in the panels. The roofs are of a moss green color.

The interior arrangement presents a plan showing a central hall, which is trimmed with cypress treated in the Flemish style, and it has a paneled wainscoting and ceiling beams. The entrance is through a vestibule, with coat closet at the side. The staircase is an ornamental one with newels and balusters of Gothic style.

The reception-room, to the right of the entrance, is trimmed with whitewood treated with white enamel paint. The living-room is trimmed with cypress, and is finished in the Flemish style. It has a paneled wainscoting and ceiling beams. The fireplace has tiled facings and hearth and a mantel. The den is treated in a similar manner, and has a small open fireplace built of brick, and a broad window seat. The dining-room is trimmed with mahogany, and it is furnished with ceiling beams and a paneled wainscoting. The butler's pantry is fitted with drawers, dressers, closets, bowl, etc. The kitchen is furnished with all the best modern conveniences, and it has a large store-pantry, range, sink, and an entry large enough to admit ice box.

The second floor is treated with ivory white paint, and contains four bedrooms, sewing-room, bathroom, and servants' bedroom, besides ample closet room. The third floor contains three bedrooms and a trunk room. The cellar, cemented, contains a laundry, heating apparatus, fuel rooms, etc.

Mr. Thomas W. James, architect, 27 School Street, Boston, Mass.



### DOMESTIC FIRES AND SMOKE.

BRONCHITIS and consumption, points out Mr. T. G. Marsh, in a paper read before the Society of Architects, are rife in our densely populated towns, and though the artisans are better paid and can afford to be better clad and to obtain better food than the agricultural laborers, yet their stamina is poor in comparison with that of their country brethren, due to the polluted air that they are compelled to breathe. There are not wanting signs that the efforts of our reformers are having effect in the abatement of smoke, but these improvements are almost entirely confined to the smoke from fuel used for industrial purposes; our domestic fire-grate remains the greatest sinner against pure air—this can be easily understood. Sanitary reformers have been able to prove to manufacturers that the abolition of smoke from their works would give them such an economy as would amply repay for the outlay of capital necessary for bringing about this result. On the other hand, any economy of fuel in our homes would be so widespread, and the individual amount so small, that householders have not considered the subject worthy of attention, and have continued a policy of retaliation, each assisting in poisoning his neighbor.

It is only to municipal authorities, architects, and engineers, therefore, that we can look for those efforts which will eventually rid us of the smoke nuisance, and it is only by continual ventilation of the subject that the desire for heat without the accompaniment of smoke can be stimulated. The daily canopy of smoke overshadowing London was estimated some years ago by Professor C. Roberts, F.R.S., at fifty tons of solid carbon, and two hundred and fifty tons of carbonic oxide gases, acids, and hydrocarbons. The late Dr. Angus Smith stated that each million tons of coal used should provide an amount of manure sufficient to increase the produce of our land in foodstuffs £533,000. The extra production estimated upon our present coal consumption would be over £95,000,000 sterling annually. Fully forty per cent. of the heat from our domestic fire-grates is positively wasted; we are, however, on the eve of an inevitable revolution in methods of obtaining power and heat, and the signs have spread farther than many of us think.

### THE DOMESTIC CONSUMER AND GAS COOKERS.

GREAT improvements having been made by all other fuel consumers, we will now turn to the domestic consumer. I am not prepared to say that in this case the amount of smoke sent out has not been decreased, but certainly it has not decreased to the same extent as in the other sections. We find that there are 1,330,000 gas cookers in use in the United Kingdom, and these more especially during the summer months have considerably decreased the coal bill. Gas-cooking stoves are almost invariably fixed in the houses without any connection to the chimney, and there is no means of freeing the house from the odor of the cooking viands. A simple arrangement for the carrying off of these odors to the chimney breast or other suitable position would, I am sure, be considered as a great boon, and seeing that one-fifth of the whole of the gas consumers of England are now users of gas-cooking stoves, I think the matter well worth attention, and would impress upon architects generally the great necessity for providing special flues for gas-cooking arrangements.

### THE FAILURE OF THE OPEN GRATE.

As regards the heating of our houses, we have in England almost exclusively the old-fashioned open fire-grates, cheerful in appearance and wasting a large percentage of the fuel. Various attempts have been made to improve these fires, but they have almost without exception been failures, for the reason that in a domestic house the servant, unlike the stoker in a mill, has no care in her methods of handling the fuel. It is thrown on the fire with little or no judgment, with the result that we have vast volumes of smoke, and until there is adopted an efficient domestic fire fed by gaseous fuel, we shall continue to have our recurring fogs and our more or less smoky atmosphere. I am of opinion that the principal reason why gaseous fuel has not been adopted more generally for heating purposes is that the price has been considered prohibitive, in many cases the various savings attendant upon its adoption not having been fully taken into account; I believe that gas should be sold at a very considerable reduction in price for purposes other than lighting.



## Plumbing

### THE PROTECTION OF SUMMER-HOUSE PLUMBING.

It is not good policy to provide summer houses with steam or hot water heating apparatus, but where such installations occur the heating boiler (water or steam) should receive first attention. Great care and judgment must be exercised in draining and drying out such heating apparatus, because, if the boiler has been put together with gaskets, it may be a toss up as to whether to run the chance of splitting the bottom of the boiler through the freezing of the small quantity of water which remains below the drain cock—which is almost sure to be a trifle above the lowest water pockets—or to risk destroying the gaskets by heating up the dry boiler.

If the main stop which controls the supply to the barn, stables, or other additional buildings, the fixtures in the highest building of the group should be drained first, to insure against an undesired inflow of water to a partially drained system at a lower level. If the system is supplied from a tank placed on a tower, or in a tank room in any of the buildings, the tank must be drained first of all, and no stop valve need be turned off anywhere on the premises. At all low points in the system out of doors the drain cocks should be opened, and, if possible, the plugs of the drain cocks should be loosened and partly raised out of the socket, so that there will be no chance of any water being held in small pockets in the brass, there to freeze and expand the cock.

The highest fixtures in a building should be emptied first. The hot and cold faucets of a fixture in the basement, such as a laundry tub, should be opened and all other faucets kept closed. If, now, the faucets are opened and the water closet tank discharged on the top floor, the entire supply line from the top floor to the basement will be siphoned out with sufficient force to empty small pockets which may exist.

To make this the more certain an air pump—such as is used to test gas piping—should now be applied to each faucet in succession, all others remaining closed. It will be necessary to tie up the lever of the ball cock in the water closet tank, as there will be no water in the tank to keep the valve closed. When air passes through the piping freely there need be no fear of there being sufficient water in the pipes to cause bursting. These faucets should be closed, and the same procedure followed at each fixture or group of fixtures, until the supply lines are clear.

Where stop cocks occur in horizontal lines of piping or in pockets or low points in the supply piping, the nuts should be loosened from the plugs and the plugs loosened from the socket, enabling any moisture which may drip down at this time, or later, to escape.

The range boiler may, meanwhile, be draining, so that by the time all the supply lines are cleared the water front is ready to receive attention. If there is any doubt about the lower tapping of the water front being at the bottom of the casting, the side connection to the boiler should be disconnected and air pumped through rapidly, forcing the water to spill out of the bottom connection.

The supply lines being clear of water the water closet tanks should be sponged dry, and the traps of the various fixtures emptied. There is little difficulty in emptying the traps under wash basins and sinks, as the traps in nearly all cases have plug screws in the bottom.

The bath trap is a little harder to get at, being under the floor, but almost invariably in a direct line below the overflow connection or standing waste. By removing the stand pipe from the standing waste, or the overflow pipe, if the tub fittings happen to be of the connected waste and overflow type, a small rubber tube may be inserted down to the water in the trap. Suction at the upper end of the tube may be applied in several ways.

It is important that every vestige of moisture be removed from the water closet bowls, whether they be washouts, washdown siphons, pneumatic siphons, or siphon jets.

The cheapest, and, all things considered, perhaps the best fluid to place in the traps to prevent the entrance of sewer gas to the house, is common kerosene oil. This liquid is noncorrosive, will not freeze, evaporates very slowly, and if recovered may be used over and over again. Great care must be used, however, to insure the perfect freedom of the oil from water, as a small amount of water settling to the bottom of the jet hole of a siphon jet bowl will be sufficient to split off the bottom of the jet tube, rendering the bowl worthless.—M. L. Kaiser, in the Metal Worker.

## Heating Talk

### RADIATORS.

The radiator question is one of the most serious matters in relation to this subject that heating engineers and architects have to face at present, points out a recent expert. Some of the designs are not attractive, and hardly suitable to the architecture of this country; but beyond the fact of their unsightly appearance, their defective heating qualities have to be considered. It is a fact that a radiator most suitable for hot-water work is often quite unsuitable for steam work, and vice versa; but my opinion is that many of the radiators now being sold in the market are too highly rated, and their ratings should be either reduced or withdrawn altogether. There are several points, such as ratings of boilers, radiators, etc., which engineers have hitherto taken for granted, and by so doing they have often laid themselves open to censure, though probably through no fault of their own, but owing rather to a want of knowledge on the subject. While you may obtain a catalogue giving all particulars which the makers wish to state, this is not all that is required by any means; for some radiators actually will not heat within 50 per cent. of their rated capacity. Some of the radiators on the market have been, so disappointing that I have felt constrained to make a radiator myself, both for direct and indirect heating, so as to insure its heating capacity being ample. The great mistake in apportioning the heating surface of radiators is made by the surface being measured for a commercial basis and not for a heating basis.

### THE HEATING OF DWELLINGS.

In discussing the heating of dwellings the same authority says:

Whether the dwellings be for the rich or the poor, I am a believer in warming and ventilating them. The general adoption of systems suited to different classes of houses would not only afford greater comfort, but would greatly reduce the common susceptibility to disease. Our climate being of such a variable nature, demands some artificial heat, and it is a pleasure to me to know, not from my own business alone, but from the experience of others engaged in similar work, that the warming and ventilating of small houses is on the increase. It may be asked how the continued extension of this movement can be effected? In reply, I would urge architects who are designing houses and other building to go carefully into the question, first with their clients, and secondly with an engineer of good repute and experience, and have a scheme prepared—if one is to be adopted—while the building is on paper, thus saving much work and anxiety afterward, and oftentimes much expense. For small residences I advise a simple boiler, but of sufficient size, with good radiators that will furnish the necessary warmth; the whole installation to be simple in design, so that it is economical from a maintenance point of view, and, at the same time, easy of manipulation for a manservant or a maidservant, or the occupier of the house itself. The extract ventilation may be the fireplaces in the rooms themselves, or, as I have done in a few cases, in connection with the kitchen chimney.

### FIREPLACES.

Few know the number of fires caused by defects in and about the fireplace in modern building work, said a speaker at a recent fire protection congress. Personally, he was disposed to think that most of the causes are brought about by careless workmanship, and a few, perhaps, by the use of methods which were quite adequate in former times, before the invention of what are now called slow-combustion stoves, coal ranges, boilers, and the like. He placed first in point of danger the practice of building half-brick trimmer arches to carry hearths in wooden floors, the arches having the centering left in and forming an open space under the brickwork. The underside of this space is lathed with wood laths and plastered in the same plane, as a rule, as the rest of the ceiling. This form of hearth should give place, in my opinion, to a concrete or other self-supporting hearth, the full depth of the floor joists, having a flat soffit on which the plaster could be applied direct. Next he should like to advocate the use of freeclay linings to all flues, a common practice in many districts, but not in use as a rule in London, where flues are generally improperly bonded and badly built with brickwork only  $\frac{1}{4}$  inches thick, in which bad mortar forms a considerable component part, and which after a time drops out, leaving the joints open.

## New Building Patents

### BRICK, STONE, AND TILE.

TILE, W. E. Rivers, Oldbridge, N. J. August 2	766,526
COMPOSITION FOR BRICKS FOR BUILDING PURPOSES, C. M. Hammond, Los Angeles, Cal. August 9	767,054
COMPOSITION FOR WALL PLASTER AND BUILDING BLOCKS, A. W. Perkins, Rutland, Vt. August 16	767,434
BUILDING BLOCK, J. A. Noble, Fostoria, Ohio. August 16	767,494
BUILDING BLOCK, E. Tisch, Grand Rapids, Mich. August 30	769,120

### CARPENTRY.

WINDOW FRAME AND SASH, F. A. Winslow, Chicago, Ill. August 9	766,860
WINDOW, J. N. Scherer, Chicago, Ill. August 9	767,172
FLOORING, G. H. Kimball, Detroit, Mich. August 9	767,288
DOOR SILL, P. G. Webber, Stoneham, Mass. August 16	767,723
ROOFING, R. C. King, F. W. Terpening, St. Louis, Mo. August 16	767,015
WEATHER STRIP FOR DOORS, T. D. Snow, Devereau, Mass. August 16	767,771
APPLIANCE FOR REPAIRING SHINGLED ROOFS, L. S. Boulter, Boston, Mass. August 16	768,009
STAIRWAY, J. Kuhlbanek, Prague, Austria-Hungary. August 30	768,759
WOOD FLOORING, J. J. C. Haasbrouck, New York, N. Y. August 30	768,852
SASH FRAME FOR SASH, J. H. Burdett, Columbus, Ind. August 30	768,865
WINDOW, O. M. Edwards, Syracuse, N. Y. August 30	768,935

### CONSTRUCTION.

BUILDING CONSTRUCTION, T. O'Shea, Chicago, Ill. August 2	766,280
CHEMICAL CONSTRUCTION, W. W. Webster, Chicago, Ill. Mass. August 2	766,487
FLOOR AND CEILING SUPPORT, E. W. Penn, New York, N. Y. August 2	766,600
LINING FOR WALLS, L. Fairbrother, Watertown, N. Y. August 2	766,726
CONCRETE OR LIKE GRIDDER, J. Fuhlmann, Schöneberg, Berlin, Germany. August 9	766,890
CONSTRUCTION OF BUILDINGS, J. O. Fisher, Mexico. Ind. August 9	766,943
WALL CONSTRUCTION, F. E. Klidder, Denver, Colo. August 16	767,398
BUILDING CONSTRUCTION, J. T. Ryther, Lynn, Mass. August 23	767,414
CONCRETE FLOOR CONSTRUCTION, F. J. Lyons, St. Louis, Mo. August 23	767,070
SADDLE ROOF, C. Loehle, Zurich, Switzerland. August 23	768,335
APPLIANCE FOR ERECTING BUILDINGS BY MOLDING, ARTIFICIAL STONE, J. J. Dewey, Highland Park, Tenn. August 23	768,420
STRUCTURAL BEAM OR ARCH, T. Finlay, New York, N. Y. August 30	768,504

### ELEVATORS.

SAFETY DEVICE FOR ELEVATORS, B. Morosini, St. Louis, Mo. August 30	768,814
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### FIREPROOFING AND FIRE EXTINGUISHMENT.

FIRE RESISTING DOOR OR BLIND, H. E. Vane, Columbus, Ohio. August 9	767,024
FIREPROOF FLOOR OR CEILING, J. Kahn, Detroit, Mich. August 23	768,285

### HARDWARE.

WINDOW SASH FASTENER, J. G. Reilly, So. Melbourne, Australia. August 9	766,198
SASH LOCK, J. M. Butcher, St. Louis, Mo. August 2	766,322
SASH FASTENER, L. Schley, New York, N. Y. August 2	766,905
LOCK, F. M. Thompson, Danbury, Conn. August 2	768,472
SASH FASTENER, W. Goodell, San Bernardino, Cal. August 2	766,680
WINDOW LATCH, O. C. Calk, Springfield, Mass. August 9	767,136
SASH LOCK, F. J. Lowery, Fort Portland, Maine. August 9	767,370
SASH LOCK, A. J. Ashley, Kansas City, Mo. August 16	767,677
SASH FASTENER, H. J. H. Chicago, Ill. August 23	768,177
SASH LOCK, W. C. Brinkerhoff, Chicago, Ill. August 30	768,730
WINDOW CONTROLLER AND LOCK, G. McDowell, New York, N. Y. August 30	769,007
COMBINED LATCH AND LOCK, W. N. Packer, Shelby, Ohio. August 30	769,011

### HEATING AND VENTILATION.

WINDOW VENTILATING LOCK, H. B. Ives, New Haven, Conn. August 2	768,357
RADIATOR, A. G. Bayles, New York, N. Y. August 30	768,785
STEAM RADIATOR, G. W. Johnson, Geneva, N. Y. August 30	768,856
VENTILATING SASH LOCK, W. N. Packer, Shelby, Ohio. August 30	769,012

### MISCELLANEOUS.

METAL WEATHER STRIP, H. E. Kenny, Detroit, Mich. August 9	767,286
PAINT COMPOUND OR MIXTURE, W. B. Blakeman, Jr., New York, N. Y. August 16	767,682
SCAFFOLDING BRACKET, J. M. Sackman, Carrollton, Ill. August 16	767,768
PNEUMATIC WINDOW, G. E. Cummings, Center Rutland, Vt. August 16	767,790
EMBOSSED WALL PAPER AND PROCESS OF MAKING SAME, A. Label, New York, N. Y. August 16	768,055
METAL LATCH, S. Davidson, Buffalo, N. Y. August 30	768,932
METAL LATCH, J. E. Malone, Buffalo, N. Y. August 30	769,947

### PLUMBING.

WASTE PIPE TRAP, T. Linke, New York, N. Y. August 16	767,904
FLEXIBLE APPARATUS, J. Denton, Paterson, N. J. August 23	768,215
CLOSET STRUCTURE, W. W. Griffiths, Philadelphia, Pa. August 30	768,601
FRESHING TANK FOR WATER CLOSETS, C. H. Phillips, Marlborough, Mass. August 30	768,688
CLOSING PIPE LINE, J. M. Haskin, Toledo, Ohio. August 30	768,792
COMBINED LAVATORY, WATER CLOSET, AND CUPBINE, J. R. Legg, St. Louis, Mo. August 30	768,878
WATER CLOSURE, F. C. Zachariae, New Orleans, La. August 30	768,890

### TOOLS.

PLANE, J. A. Traut, New Britain, Conn. August 2	766,473
PLANE, A. W. Campbell, Glastonbury, England. August 2	768,491
PLANE AND LEVEL, C. J. Dewaine, Bath, N. Y. August 16	767,392
COMBINED SQUARE, LEVEL, AND PLUM LINE, INVESTMENT, J. W. Fletcher, Chicago, Ill. August 30	768,740



## Publishers' Department

### TINNERS' AND ROOFERS' SUPPLIES.

ARCHITECTS are frequently planning their new buildings, wherever possible, on the open style of gutter. It is free to expand and shrink, and no stems or cross-bars stop the flow of leaves or rubbish. Hangers give the trough a strong, paneled appearance, while its position, projecting beyond the eaves, constitutes an imposing line to an important part of a structure. A gutter of this kind will last for years. It is made by the Berger Bros. Company, which owns one of the largest plants of tinners' and roofers' supplies in the world. This firm manufactures tin andterne plates, eaves, gutters and pipes, gutter and pipe hangers, pipe hooks and fasteners, steel roofing and siding, galvanized and copper cornice work, malleable and gray iron castings and trimmings, at the factory, Nos. 3114-3120 North Seventeenth Street, Philadelphia. One of its popular roofing implements is shown in the accompanying en-



STANDING-SEAM ROOF IRON.

graving, and the device is designed to dispense with snow rails or gutters formed on the roof, to prevent snow sliding. This standing-seam roof iron is made of the best malleable iron, and clamps fast to the roof by clinching the lugs through the standing seam of metal roofs. A similar one is made for slate, and is riveted on 3-16 x 1/4 inch iron plates, fourteen inches long, to go nine inches under the slate. A tool of much scope and power is the Buffalo snips, straight jawed and adapted to cutting out holes, irregular shapes, scrolls, etc. The inner faces of the jaws are shaped in such a manner that the material can pass freely when the operator is cutting curves and irregular shapes. When cutting in the other direction the lower jaw will allow the material to pass. The tool is forged out of the solid bar, with steel-laid jaws properly tempered. Some of the supplies that make up the extensive stock of this company comprise roll, V crimp, and corrugated roofing, genuine Russia and American planished iron, B. B. galvanized and black iron, sheet zinc, sheet copper, metal lath, rivets, bolts, solder, registers, ventilators, elbows, handles, valves, plungers, etc. Finalis and crestings form a very important part of the goods in stock at the recently erected warehouse adjoining the office and store No. 237 Arch Street, Philadelphia. There is probably no material or implement needed in roofers' supplies that can not be procured from this establishment. There are also hundreds of articles and many compounds in stock that are intended for various other uses and purposes, many of which are of the highest practical value. Asbestos furnace cement, dry iron-ore paint, iron clad milk cans, fire pots, grooving machines, ferrosteel lattice, and mechanics' vises are a few of the long list carried by this firm.

### ROOFING TIN.

A VERY practical plan has been adopted by the American Tin Plate Company, of Pittsburgh, Pa., namely, to get specifications of old, experienced tin roofers and distribute them among architects and others, whose duty it is to see that building work is done well and properly. Housebuilders who prefer a tin roof to any other and can be assured that the right kind of material will be put on in the right manner, will appreciate this measure. The specifications given in this article were written by Mr. John McIlroy, senior partner of I. D. McIlroy & Sons, of No. 114 Smithfield Street, Pittsburgh. The views of a man of large practice in this branch of work were secured because it has been observed that whenever an extra good job of tin roofing was required in the above city, the firm just mentioned, which is by no means a cheap roofer, would generally be called on to do the work, and also for the reason that a complaint against a tin roof of its laying was something very rare. The firm was established in 1858, and Mr. John McIlroy received his training as a metal worker from his father nearly forty-five years ago, and has been in the business ever since, and, therefore, his experience is of special value. Particular attention might be given to his instructions regarding painting, for the early decay of tin roofs has been caused more by inferior paint than by any climatic or atmospheric conditions, or the ingredients of the roofing material. The specifications are: Flat seam roof.—Use tin of good quality; see that the tin is square; notch corners 1 inch; turn 1/4 inch edge; use 7 nails or cleats to the sheet; hammer smooth with mallet; flux with resin, using plenty resin; solder with

hot soldering copper, soldering on top of seam, and soak the solder well into seam; use on IC tin 5 pounds of 1/2 x 1/2 solder, on IX tin 6 to 7 pounds per square. See that the resin is well cleaned off after the roof is finished, then give the roof one coat of paint made of pure English Venetian red or pure oxide of iron and pure boiled linseed oil and a little turpentine; in thirty to ninety days a second coat of the same paint, or good graphite, using in each case only linseed oil for a thinner; in one year a third coat; after that you will be required to paint only once in every three or four years. We take no stock in painting under side of flat seam roof. If the sheeting boards are not tongued and grooved, there should first be put on a layer of dry felt paper to exclude the air from cracks and joints and to prevent nail heads from coming in contact with tin roof. If the sheeting boards are old and dry, 20 in. x 28 in. plates are preferable; if the sheeting boards are wet and green, 14 in. x 20 in. plates are preferable. 20 in x 28 in. sheets will give you an average measurement on roofs of 385 feet per case, 112 sheets 20 in. x 28 in. Average measurement on roof 14 x 20, 112 sheets, 187 feet to box. Standing seam roof.—Have the tin square; notch corners for seams a little to ease the bending of the several layers; allow 1/2 inch for cross-seams; solder well; put tin in straight rolls 20 inches wide; use 1 1/4 and 1 1/2 inch tongues for side or standing seams; cleat every 12 inch, 2 nails to cleat; be sure to have your seam perfect; never put a standing seam roof on where you have less than 1 1/4 inch fall to the foot; paint the same as flat seam roof. In standing seam roofs always put a layer of dry felt paper on roof before laying tin. It will exclude the air from seams and will prevent nail heads in sheeting from coming in contact with the tin. You will have an average of 352 feet per box of 112 sheets, 20 in. x 28 in. tin. If the above directions are followed you will have no trouble, provided a good quality of tin is used. We can show roofs now which have been exposed thirty-five to forty-five years and are still intact.

### VIEWS OF A SOUTHERN MANUFACTURER.

MR. E. R. MILLER, secretary of the W. E. Caldwell Company, of Louisville, Ky., was recently asked his views as to the present condition and future prospects of business in his line, which is the manufacture of tanks and towers for numerous purposes, including fire protection, water works for smaller municipalities, for country homes, florists, and nurseries; also tanks and tubs for distillers, brewers, tanners, laundrymen, and the like. As the business of the W. E. Caldwell Company extends all over the country and deals with so many lines of industry, it was thought that Mr. Miller would be able to give a very good idea of actual conditions. He said: "Like everybody else, we saw the present lull in business coming. We made up our minds, however, that if by any effort on our part we could prevent a curtailment of our business, that effort would not be spared. While it is probable that the aggregate business in our line has not been so prosperous during the last six or eight months, our own has increased somewhat, and right along, our new orders have been a little more numerous than those of last year, which was the most prosperous that we had had in a quarter of a century. To begin with, we made a much more thorough distribution of our 1904 catalogue than we had ever done with any earlier issue. We directed and shipped out in all over four carloads. We also made a much more thorough exercise of our follow-up system used in connection with our advertising in the trade papers, and, of course, we kept our salesmen going. The result has been very gratifying. We feel that we have had more than our share of business, although naturally very little of it has been in connection with the building of new plants. One aspect of the general reaching after economy has been decidedly beneficial to us. Many manufacturers have found, upon inquiry, that they could reduce the cost of their insurance by using an independent water supply in connection with their sprinkler systems, and these have come to us for their tank and tower outfits, the first cost of which they saved in a short time through the premium economy. As to the distribution of our business, it has naturally been especially good in the South, which has not yet felt the pinch of economic curtailment. Still, we are very much gratified that in all sections we have at least held our own."

### AMUSEMENT OUTFITS.

ANY kind of apparatus, found, for instance, at a great resort like Coney Island, that turns, gyrates, runs, slides, or in any way works by artificial aid to amuse the public, is made to a very large amount in North Tonawanda, N. Y. Tent, platform, organ, boiler, engine, chariots, horses, etc., that go to make up the complete "merry-go-round" may be procured from the manufacturers of this kind of outfit, the Herschell-Spillman Company, of that place. The firm is understood to be the pioneer operator and maker of the popular merry-go-round, and for many years prominent in the production of paraphernalia on the order of

striking machines, picture centers, carved centers, ocean waves, Ferris wheels, and miniature railroads. The company's improved two-horse gallery is what is known as the twenty-four horse machine. It is nearly forty feet in diameter, and comfortably seats ninety-six adults. The chariots are four in number. The horses are mounted on rockers of a new style, which do away with the use of bolts. They are actuated by eccentrics on the track wheels, which give the pleasing and life-like galloping movement. The regularly furnished musical apparatus is the No. 18 Military Band Organ fitted with two barrels, each one containing eight modern popular selections of music. It is supplied with trumpets, piccolos, and flageolets. The galleries are furnished with a negro or Chinese image, as preferred, neatly clothed, and turning the organ. The construction is such that he automatically but naturally turns his head and bows when the round is in motion. Mirrors, decorations, brass work, panels, etc., are made at the factory. The tents used are eight ounce army duck tents of the best quality, fifty feet in diameter, and are hung from the center pole, and supported on the outside edge by sidewalk poles secured by stakes, rather similar to a circus tent. The boilers and engines made at the works of this firm, and used to drive the machinery when on the road, are of the portable type. The boilers are thirty inches in diameter and fifty-four inches high. The engines are about twelve horse power. The address, Nos. 162-198 Sweeney Street, North Tonawanda, New York.

### THE WHITE HOUSE STABLES.

THE present White House stables, says a writer in *Rider and Driver*, was erected during the administration of General Grant, who kept more horses than any other President save Lincoln, and the building has been in use continuously ever since. Of the fifteen horses in the stables, eight belong to the Roosevelt family and the remainder to the Government. The impression which prevails to some extent to the effect that the Government provides the Presidential equipages is an erroneous one. The horses and carriages owned by the Government, which are quartered at the White House stables, are seldom used by the President or any member of his family, being presumably reserved exclusively for the use of the secretaries and messengers at the White House. This idea is even carried out to the extent of dividing the White House stables into two distinct sections. One is occupied by the horses and carriages owned by the Government, while the other is reserved for the equines and vehicles which are the private property of the Chief Magistrate. Similarly, the President must defray from his private purse the expenses of the keep of his horses, whereas the Government purchases feed for the other animals.

Prominent among the horses in the White House stables are the President's hunters. Bleistein, Mr. Roosevelt's favorite, is a large, strong-limbed, full-chested, light bay, with a white star on his forehead and two white hind feet. The other hunter, Renown, is a dark brown Canadian horse, five years old, and very large and strong, measuring about seventeen hands high. Both animals are excellent jumpers, Bleistein having a record of 6 feet 5 inches, while Renown's record is 6 feet 8 inches.

Of the vehicles in the White House stables the most imposing is the ceremonial or state carriage, a leather front landau. It is trimmed in selected dull blue goatskin, with dinkey seat and head lining covered with the finest quality of blue cloth. Boot and body are painted black, with rich, dark blue door and body panels, the gear a shade lighter of blue, striped with black. The interior fittings include speaking tube, combination card case and tablet, mirror, etc.

The Presidential brougham likewise has boot and body painted black and trimmings of dull blue and goatskin. It is provided with pockets for books and magazines, memorandum bound in ivory and silver, umbrella holder and drip, watch, parcel rack, mirror, cut-glass vinaigrette, signal bell, arm and foot rests.

A third carriage is a surrey trimmed in tan, and finally, there is the "Oyster Bay wagon," an old-fashioned vehicle resembling a T-cart, which has been in use by the Roosevelts—father and son—for forty-five years, but is still used frequently by the President, both at Washington and Oyster Bay.

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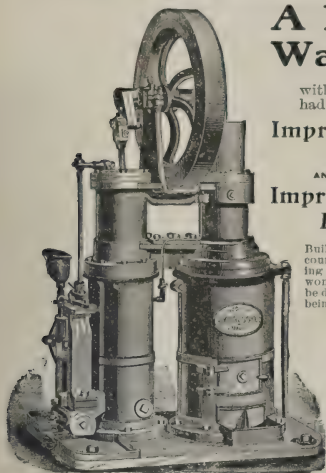
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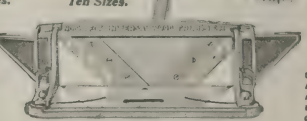

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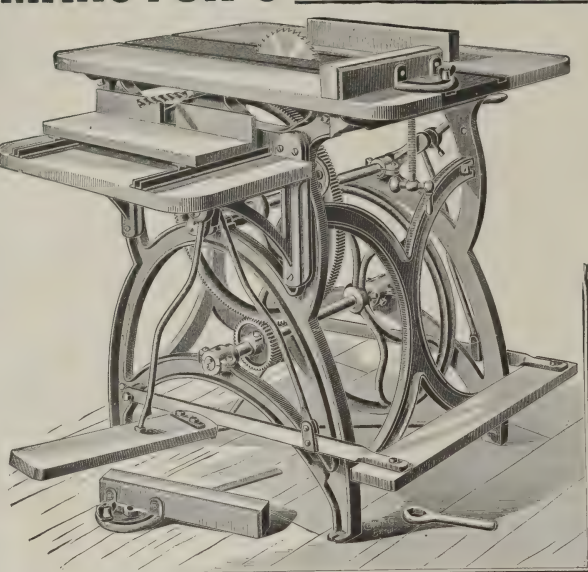
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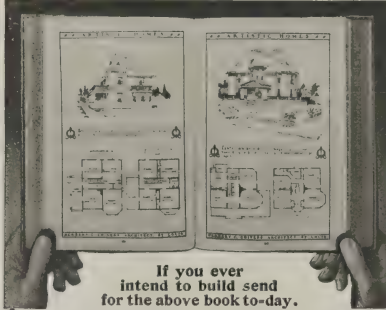
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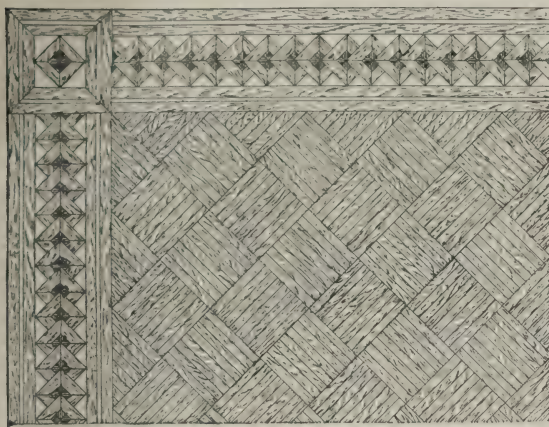
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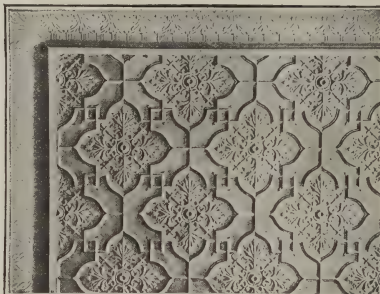
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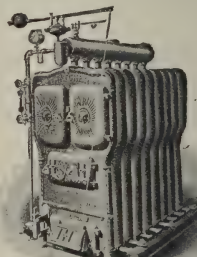
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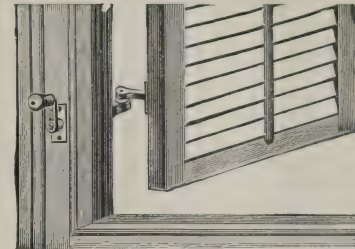
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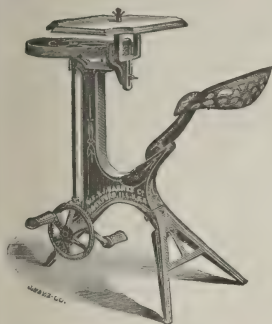
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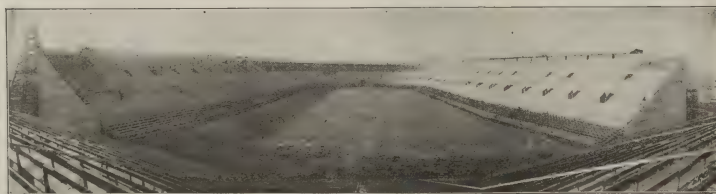
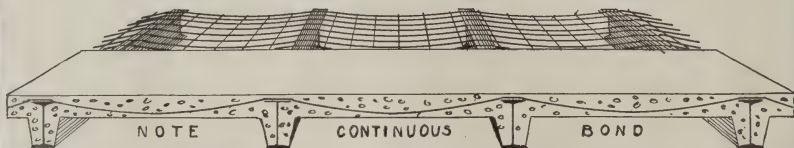


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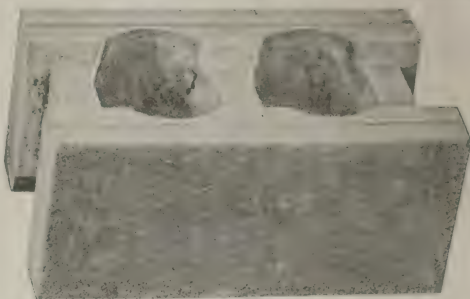
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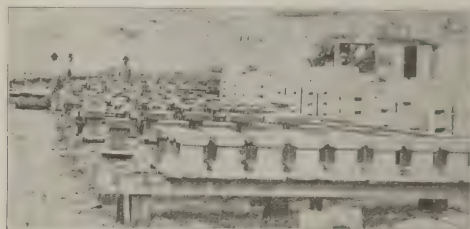


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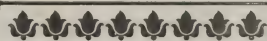


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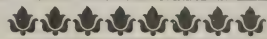
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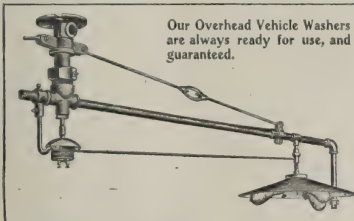
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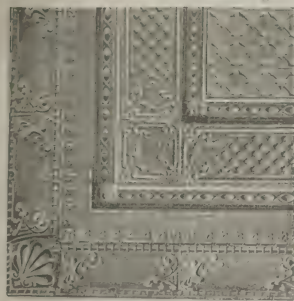
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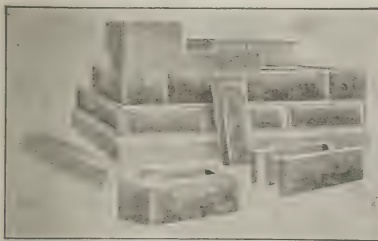
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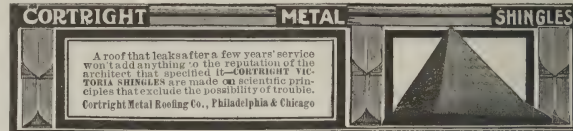
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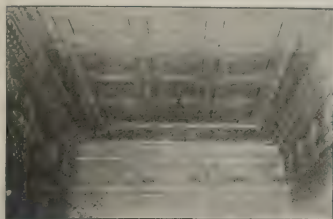


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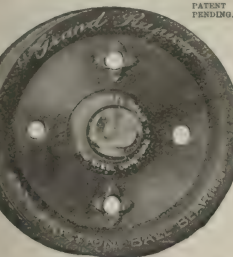
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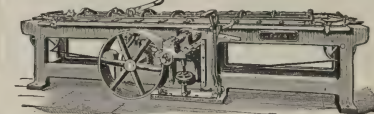
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## Building Monthly.



THE HOUSE OF HERMAN B. DURYEA, ESQ., OLD WESTBURY, N. Y.

No. 229

NOVEMBER, 1904

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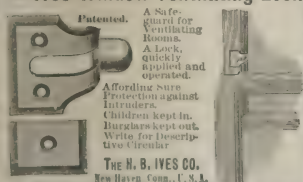
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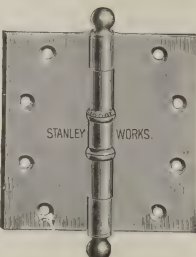


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THE VISTA—THE HOUSE OF HERMAN B. DURYEA, ESQ., OLD WESTBURY, N. Y.—See page 93.  
MESSRS. CARRÈRE & HASTINGS, ARCHITECTS.



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\*The engravings presented in this issue are made from photographs taken specially for the SCIENTIFIC AMERICAN BUILDING MONTHLY.

## MONTHLY COMMENT.

THE publishers of the BUILDING MONTHLY, Messrs. Munn & Co., take pleasure in announcing for immediate publication an important book on the newest great houses of America, under the comprehensive title of "American Estates and Gardens." This book will be the most richly illustrated work on American architecture which has yet been published, including as it will nearly three hundred illustrations, many of which are full page, and all reproduced in the very finest style of the printer's art. They will include views of exteriors and interiors, and many views of gardens, thus presenting the various estates described in a thoroughly complete and detailed manner. Many of the houses included in the book have not heretofore been illustrated, and it will, in a very real sense, be representative of the best work of the leading American architects. The illustrations will be accompanied with a descriptive text by Mr. Barr Ferree. The volume will form a large quarto of about three hundred and fifty pages, and will be handsomely bound, forming, in many respects, one of the most attractive books of the present season.

A POET has arisen in one of the New York daily papers, and indited an ode to "The House Beautiful." He leaves no doubt as to his dislike and distrust of what he conceives to be the most modern expression of the up-to-date mansion. His smoking-room is too perfect with its "outrageously clean" weathered oak tables; his library is "splendid and rich" with mahogany "frightful to scratch," and the living-room, "with a touch of 'Colonial style,'" is utterly unfitted for its avowed purpose. Poor fellow, what a time he has, and how strange are his notions of a well ordered house! Is there any reason why a smoking-room should be cluttered with dust to make it available? Must nicely polished furniture be kept out of a library because it may be scratched? Is neatness incompatible with the uses of a living-room? The poet, of course, bewails the fate of a man compelled to live in a house furnished in a manner too refined for his coarse taste—that is the lesson of his outpouring. His fate is sad, but is not his own uncouthness chiefly to blame for his unhappiness?

It is, of course, quite possible to furnish and arrange a house on so high a plane of esthetic refinement that the mortals whose lot it is to live in it may be dissatisfied with it. But shame upon those who cry for dust and bewail the splendor of polished tables! Only really fortunate people can possess such articles, and the man who has them should thank the stars for the wisely care that has brought them into his house and surrounded him with the latest ideas in household art. This, it is but truth to say, may often be devoid of genuine merit, but it stands for good intentions and well-meaning effort; and household art, being what it is, deserves encouragement.

The richly furnished house is apt to be very much overdone. The needs of the wealthy are many; their means of gratifying their needs are ample. To see an object and to desire is often equivalent to possession. And the desire to possess is seldom limited. Too many objects are thus readily acquired, and wealthy drawing rooms become mimic museums of very commonplace things. For richness in itself is of no value unless characterized by taste and art; and to crowd a room with all manner of furnishings is simply to display what one owns and not to give evidence of one's real care for the good and the beautiful.

A CHICAGO lady, having recently secured a divorce, offers some suggestions on the best way of keeping the home life intact, which, under such circumstances, have a semblance of authority. Her remarks are particularly directed to the husband. "Never," she exclaims; "neglect a parting kiss when starting for business. Take your wife to the theater at least once a week, and when you buy the tickets notify her by telephone in season to give her ample time to dress. Then"—and perhaps this is the great secret, after all—"tell your wife at least once a day that you love her. Never compel her to force this confession," she sagely adds, "but just tell it to her of your own free will." The suggestion is made that these rules, implicitly followed, will act as sure cures to home ills. The advice seems well intended and offers no difficulty.

## THE OLD-TIME GARDEN.

THE beauty of the old time garden never lessens. Year after year it has bloomed its fine old flowers; year after year its hedges have thriven, its box grown greener and greener, its flowers more and more redolent of the simple life of the past. Very beautiful these fine old garden spots are, and very rare, for the march of so-called progress, the changes in taste and the spread of newfangled notions ancient garden making have swept so many of them away that comparatively few have survived to delight the eye and enchant the fancy of contemporary folk.

The very rarity of these gardens—of good old gardens, of old gardens well grown and well preserved, of old gardens that to-day are as brimful of old plants as of yore—adds vastly to the present-day appreciation of them. The passion for antiques is now well nigh universal. Old clothes, old plates and cups, old china of all kinds, old furniture, old carpets, old wall coverings—the very word "old" gives charm and interest, causes a pricking of ears, excites a new attention whenever it is mentioned. Old gardens are among the rarest of antiquities, because their survival has meant, in most cases, more years of continuous care and thought than Americans, as a people, are apt to lavish on any subject or on any object. An old vase may be stored away in an attic and resurrected by a younger generation as a thing of joy and a new delight in life; but the old garden has had to be maintained and tended year after year, and from sheer love of its beauty and old time-liness. Its survival, amid the rapid rush of American life, is hardly short of a miracle.

If one were to draw a valued lesson from a survey of old time gardens it would surely be the value of constant care and uninterrupted thought and interest. They have not survived by accident nor through inherent sturdiness of growth. Their stout old plants have needed constant replenishing; the borders of box have yearned for trimming; the paths have cried aloud for cleaning; the shrubbery must be cut and the vines trained, and the whole kept in that spick-and-span orderliness which, looking backward, seems so charmingly characteristic of old time life.

No garden has ever yet been made that did not require making and constant attention. The old time garden makers were not concerned with the mighty problems which now beset the designers of modern fine gardens. The materials at their hands were few and unimportant. They planted shrubs easy of cultivation; they made borders of plants close at hand; they planted the seeds of ready growing annual plants, and were content to watch their simple flowers grow and bloom and transform what may have been a waste into a bower of bloom and foliage. The homeliness of the plants was the best evidence of the deep seated love of the old garden maker. He knew little of vistas and

axes, and of garden architecture he had never heard. But out of the simple plants that thrived in the open soil he created gardens that, when they have survived, have been sources of unending joy to those who knew them, who walked in their narrow paths and loved each simple old time flower.

The old time garden was an individual garden. It would be a mistake to suppose that the gardener, the specialist in garden making, is a new fashioned adjunct to the country house. The modern gardener differs from the old gardener exactly as the modern garden differs from the old garden. But ever and always the old time garden was an individual garden, a garden in which the master and mistress took a definite personal interest, a garden in which the mistress often labored with her own hands, and which she regarded as her very own, not alone by right of ownership, but by right of downright labor.

And in seeking out the meaning of these old places this individual note must not be lost sight of. It is a rare, indefinable quality like the gentle perfume of old lavender or dead rose leaves pressed within the folds of old silk. It may not be defined; it certainly can not be measured; but it surely exists, penetrating the whole flower decked space with sweet persistency, until one can almost recall the gentle, refining presences that first watched its growth.

Strangely enough these gardens are most aristocratic in their effect. Perhaps it is because our present-day views of aristocracy are largely based on descent, because we think—and perhaps naturally think—that aristocracy rests on descent, and the longer the descent the greater the pretensions to aristocratic claims of the modern-day representative of the past. If this be true—and there is no harm in the suggestion—then of all gardens, of all American gardens, the old time garden is the very acme of aristocracy, the social leader among all contemporary pleasure grounds of their class.

The modern flower garden, in its most elaborated development, is a very sumptuous and expensive affair. It requires an ample space for the display of the rich horticultural rarities which are deemed indispensable to its enrichment. It needs an army of men to keep it up to the top-notch of modern cultivation. It requires a costly architectural setting; it needs vases and statues, pergolas and decorations of all sorts. Very beautiful it often is, and very fine; but its splendor is apt to be so pronounced that its very wealth of resources speaks aloud of cost and expense.

The old time garden is a modest garden, albeit it is alive with phlox and marigolds, with marvels of Peru and with zinnias, with petunias and with portulacas, with balsams and with nasturtiums, with dahlias and with sunflowers, with hollyhocks and lilacs and roses, and with all the other "common" plants that God has given to humanity for its enjoyment and delight. But why "common"? Every one of these lovely old plants—and many others—has a real inherent beauty of its own, that is positive and real, and as inherently present in the single plant as in a whole border. If they are "common," it surely can not be because they are coarse and ugly, but because they can be so readily grown, because so many grow them—and because of their easy culture—that they seem scarce of the same class as the more difficultly grown plants of the costly modern garden.

But let the "commonness" of these homely plants pass, and rejoice the more that so much loveliness is common, and that every one who has a bit of ground and a seed to plant may raise a joyous flower, brilliant and beautiful. Our grandames showed us what could be done with such simple means, showed us grandly and beautifully; and we go into a special state of ecstasy every time one of these fine old places comes within range of our vision.

The old time garden was planned on the simple idea of using plants that grew easily and naturally, with perhaps the slightest effort, and certainly with the utmost flowering. It was not splendor that was sought, but charm, the charm of foliage and of color, perhaps chiefly the charm of color. Plants that gave these results were eagerly sought after and industriously cultivated. The modern seedsman has improved on many of them, but the modern garden maker has seldom produced more charming results than the old time garden makers did in their quiet, simple old gardens. It is a highly significant fact that, beautiful as these old gardens must have been in the days of their first blooming, they are still beautiful, and do not suffer in interest in comparison with the more pretentious efforts of the modern gardener.

Two remarkably beautiful examples of old time gardens are illustrated in the photographs reproduced on page 108. One is the Grinnell Garden, in New Bedford, Mass., and the other from the property of Mrs. Edward C. Jones, in the same place. They are old time gardens of the finest type, rich in flowers, elaborate in planning, abundant in hardy and annual plants. Dating from the year 1835, they have acquired a fine old age, and are fine examples of a rare old art.



## NOTABLE AMERICAN HOUSES\*

BY BARR FERRÉE.

## THE HOUSE OF HERMAN B. DURYEA, ESQ., OLD WESTBURY, N. Y.

MR. DURYEA'S house is located quite well into the country, and may be reached either from the stations of Westbury or Roslyn. It is a good drive from either place along fine roads that run partly through woods and partly between fields of smiling grass. Immediately at the entrance to the place is the stable, a large Colonial building, quite stately in its front; across the road is the old farmhouse, once the chief building on this land, and still in good preservation, and a fine type of the old Long Island farmhouse. A short drive through pleasantly wooded land brings one to the house.

It is a house of strikingly original design. It is built of white stucco. The first story, being a basement, is treated as such, the walls being marked off in large blocks. Above, in the center, is an ornamental centerpiece of pilasters, carrying a broken curved pediment. The windows of the first story have each a separate balcony supported on decorated brackets. The crowning cornice is of wood, flat and straight, supported on large, open brackets very dark in color, a unique finish that gives quite a foreign character to the house. Below,

way it may be said that the level of the main floor of the inner part, in which the drawing-room and the dining-room are placed, starts about midway the height of the basement story, which contains the entrance. The first story on the front is thus reached from the main hall by a short flight of steps, only half as many, in fact, as is needed to make the full descent to the entrance doorway. It need hardly be said that this arrangement is quite unusual, and adds immensely to the interest and variety of the interior.

The entrance hall is square, entirely encased with Caen stone of a pinkish tint. A narrow white marble base runs around the room, which is floored with red brick tiles. The walls are decorated with pilasters, and immediately in face is a raised corridor, separated from the entrance hall by four Roman Doric columns. Just inside the entrance door is a passage conducting to an office, finished in red.

Above the small circular steps between the columns is a corridor running right and left. To the right it leads to a suite of sleeping apartments; to the left it connects with the service and kitchen. As one enters the house the wall that bounds this hall is closed, save for a central niche containing a fine bronze. Mounting the first steps, one perceives, on either side, a flight of white marble steps curving inward, which leads to the upper hall or foyer. One is now in the center of the

other. To the right it directly leads to a large glazed door, which opens immediately above the side steps, as well as forms the corridor by which the drawing-room is reached. The superb tapestries which are hung in these wing corridors, as they may be called, are of quite unusual richness and beauty.

I have dealt at some length on the planning of this hall, for the scheme is quite a new one and it is worked out in an exceedingly clever manner. It was occasioned, no doubt, by the fact that the ground immediately on the inner side of the house was higher than that on the entrance side. The glass doors of the hall open, in fact, directly upon the formal garden, which is enclosed within the two inner wings. But the great merit of this hall is its complete privacy and its splendid effect, and the monumental character, which is completely surprising. No one knows, on entering the house, what one is to see; one invariably approaches the interior of so fine a house as this one gives outward evidence of being with pleasurable anticipations, but one is certainly not prepared for the very great charm of this very surprising hall. The hall has, in many recent houses, received an importance it never had in buildings of an old type. But many of the great modern halls are entered directly from the main doorway, or else separated from it only by a modest vestibule. In most cases they give the keynote



THE HALL—THE HOUSE OF HERMAN B. DURYEA, ESQ., OLD WESTBURY, N. Y.

on either side, are curtain walls, curved and straight, of brick, enclosing large stuccoed panels. These enclose, on the left, a kitchen yard, and, on the right, a yard for carriages, by which the visitor may ascend to the main hall by a flight of steps placed under an archway within the wall line of the house.

The house is built directly on a hill slope, so that, while the main front of the building is three stories high, the inner part, which includes the chief ornamental rooms, is but two stories high, the hill being cut away so as to give greater height to the entrance front, and make room for the service yard, which is thus brought a number of feet below the formal garden, with which the inner side of the house is enclosed.

These differences in level have had a very predominant influence on the plan of the house, in which the halls and corridors take a leading part. In a general

house, the point to which everything radiates, and by which the plan is dominated. It is a splendid and surprising room, oval in form, two stories in height; lighted by windows in the central wall and by others from above, which throw a flood of brilliant sunshine across a balcony that runs entirely around it. The whole of the lower floor is in pink Caen stone; the upper floor is also Caen stone, while the upper arches, which complete the inner circle of the upper windows, afford glimpses of Caen stone columns still higher up, which support the ceiling of the upper corridor. It is a brilliant conception carried out in a brilliant way. The architectural parts are beautifully refined, and, while entirely adequate, are carefully subordinated and subdued. The main arches of the lower hall are elliptical in form—the arches over the corridor entrances, over the great central window, over the stairs in the center—with smaller round arches over the doorways in the corners. The large arches are without moldings, the small ones slightly moulded. The walls are rusticated, the arches being upheld on pilasters. Pilasters appear again in the upper floor to support the plaster ceiling. The floor is of red brick, and bay trees give a pleasant color note to the quiet pink of the walls.

The hall is cut, on either side, by a corridor that runs at right angles through the house. Its walls are pink tinted, its floor of red brick, and yet, while its area forms a part of the main hall space, it is architecturally quite distinct from it. To the left it is a closed passage, connecting with the dining-room on one side and with the kitchen or service rooms on the

of the whole interior, an insight that is had by the very first glance. This, no doubt, is very excellent in its way, but it largely destroys the value of the hall as a private room. In Mr. Duryea's house this privacy is obtained through the cleverest planning and the unusual position of the house, and thoroughly interesting and novel is the result.

Mention has already been made of the drawing-room and dining-room, which are the two chief apartments of the house, and which are situated on the same level as the oval hall. Each completely fills a wing on its own, which is applied at right angles to the main building at either extremity of the house. The drawing-room is on the left, a splendidly sized room, paneled in pearl. Great panels of red Italian damask, curtains of the same brilliant color, and Adam furniture from Battle Abbey, England, in red and gold, give the dominant color. The fireplace is of yellow marble, with a paneled overmantel with pilasters on either side; in the center is a rare old English mirror in a rich frame. The room contains a number of fine paintings. The lights are beautiful girandoles, some of striking design and originality. At the end is a large outdoor room, which is continuous with the house wall and covered by the same roof. It has a brick floor and a beamed ceiling, and its arches look out upon the beautiful formal garden.

The dining-room, which occupies the space corresponding to the drawing-room on the left of the oval hall, is paneled throughout in Italian walnut, with

(Continued on page 100.)

\* Previous articles in this series: "BILTMORE," THE ESTATE OF GEORGE W. VANDERBILT, ESQ., BILTMORE, N. C., February, 1903. "THE GARDEN AT 'GEORGIAN COURT,'" THE HOUSE OF GEORGE J. GOULD, ESQ., LAKEWOOD, N. J., AUGUST, 1903. "HARBOR HILL," THE ESTATE OF CLARENCE H. MACKAY, ESQ., ROSLYN, N. Y., September, 1903. "THE ORCHARD," THE COUNTRY SEAT OF JAMES LAWRENCE BREESE, ESQ., SOUTHBRIDGE, N. Y., November, 1903. "THE RESIDENCE OF W. L. STON, ESQ., ROSLYN, N. Y., December, 1904. "WHITE HALL," THE HOUSE OF HENRY M. FLAGLER, ESQ., PALM BEACH, FLA., JANUARY, 1904. "FAULKNER FARMS," THE ESTATE OF MRS. CHARLES F. SPRAGUE, BROOKLINE, MASS., MARCH, 1904. "THE HOUSE OF E. J. BERWIND, ESQ., NEWPORT, R. I., APRIL, 1904. "GREY CRAIG," THE ESTATE OF J. MITCHELL CLARK, ESQ., NEWPORT, R. I., MAY, 1904. "BLAIRSDEN," THE ESTATE OF C. LEEDY BLAIR, ESQ., BERNARDSVILLE, N. J., JUNE, 1904. "KILDYSART," THE COUNTRY SEAT OF DANIEL O'DAY, ESQ., DEAL BEACH, N. J., JULY, 1904. "THE ESTATE OF HENRY V. POOL, ESQ., TUXEDO, N. Y., AUGUST, 1904. "THE COUNTRY SEAT OF STANFORD WHITE, ESQ., ST. JAMES, L. I., N. Y., SEPTEMBER, 1904. "DREAMSWOLD," THE ESTATE OF THOMAS W. LAWSON, ESQ., EGYPT, MASS., OCTOBER, 1904.

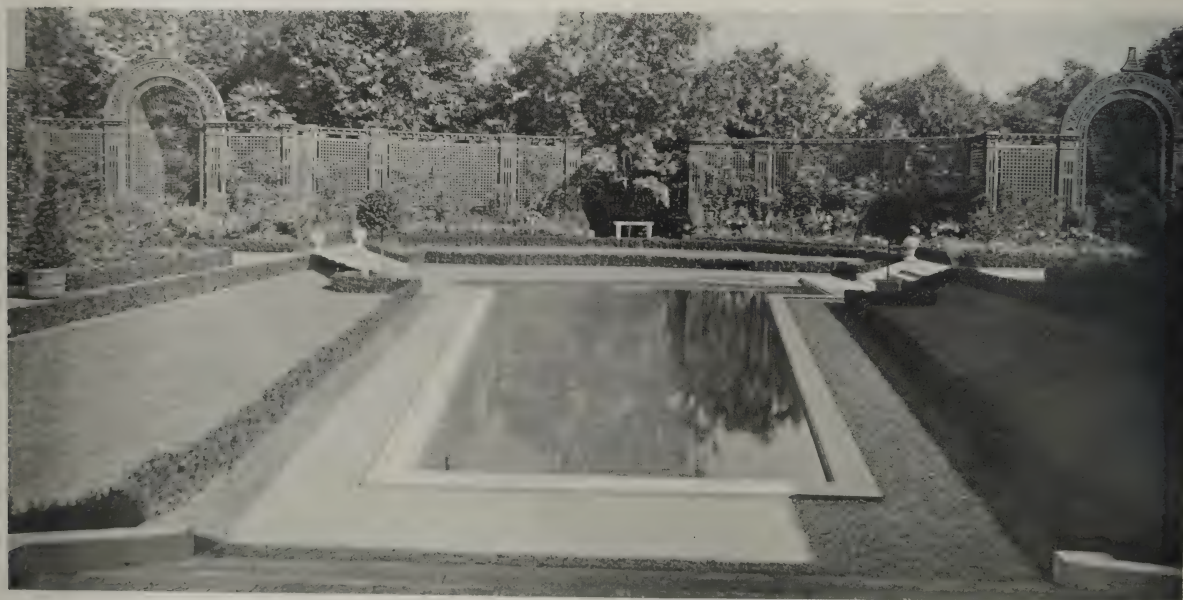




THE TERRACE.



THE HOUSE.



THE LAKE IN THE SUNKEN GARDEN.

THE HOUSE OF HERMAN B. DURYEA, ESQ., OLD WESTBURY, N. Y.—See page 93.  
MESSRS. CARRÈRE & HASTINGS, ARCHITECTS.





MRS. DURYEA'S BEDROOM.

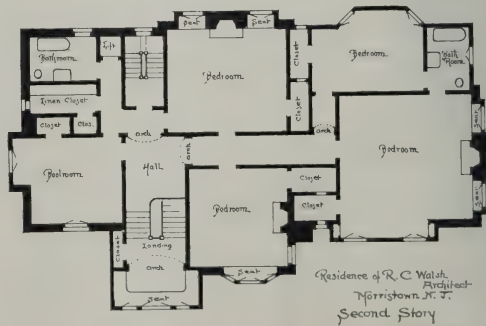


THE DINING-ROOM.

THE HOUSE OF HERMAN B. DURYEA, ESQ., OLD WESTBURY, N. Y.—See page 53.

MESSEURS. FARRÈRE & HASTINGS, ARCHITECTS.





RESIDENCE OF ROBERT C. WALSH, ESQ., MORRISTOWN, N. J.—See page 106.  
MR. ROBERT C. WALSH, ARCHITECT.





THE LIVING-ROOM.

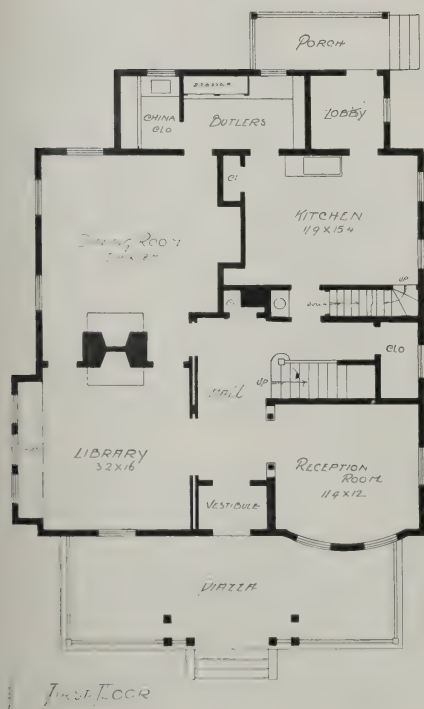


THE DINING-ROOM.

RESIDENCE OF ROBERT C. WALSH, ESQ., MORRISTOWN, N. J. See page 106.

MR. ROBERT C. WALSH, ARCHITECT

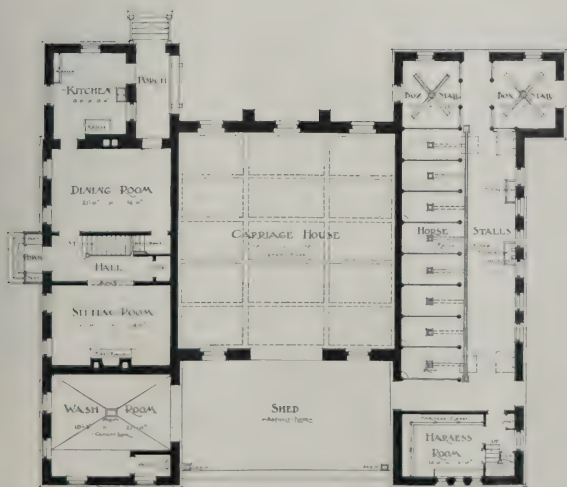




A COLONIAL COTTAGE AT SPRINGFIELD, MASS.—See page 106.

MR. WILLIAM H. DEXTER, BUILDER.





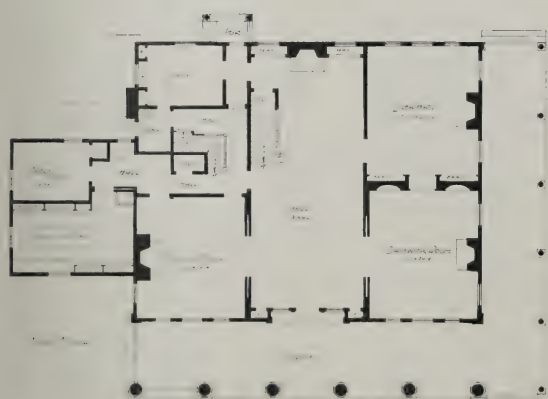
FIRST-FLOOR PLAN



SECOND-FLOOR PLAN

A GATE LODGE AND STABLE AT ROSEMONT, PA.—See page 108.  
MESSRS. DUHRING, OAKIE & ZEIGLER, ARCHITECTS.





THE COUNTRY HOUSE OF GEORGE McCULLOUGH MILLER, ESQ., MORRISTOWN, N. J.—See page 108.  
MR. CHARLES ALLING GIFFORD, ARCHITECT.





THE DRAWING-ROOM.



THE PORCH.



VIEW OF HOUSE.

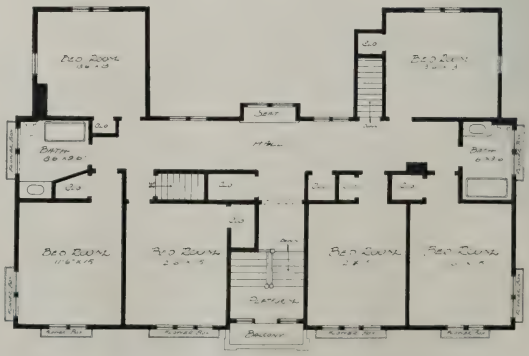
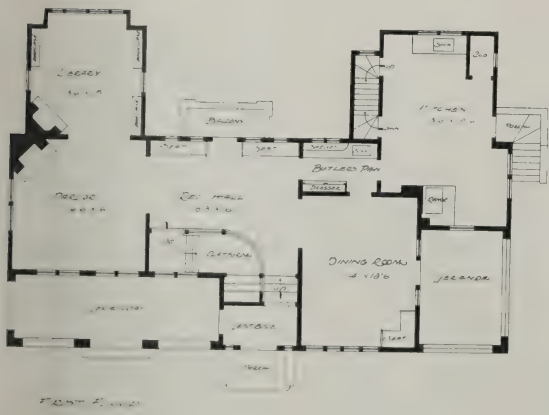


THE HALL.

THE COUNTRY HOUSE OF GEORGE McCULLOUGH MILLER, ESQ., MORRISTOWN, N. J.—See page 108.

MR. CHARLES ALLING GIFFORD, ARCHITECT.





RESIDENCE OF ALBERT B. DAVIES, ESQ., NEATHERWOOD, N. J.—See page 107.  
MESSRS. OAKLEY & SON, ARCHITECTS.





A SOLARIUM TO THE RESIDENCE OF GENERAL HARRISON GRAY OTIS, ATLANTA, GA.  
MR. JOHN KREMPLE, ARCHITECT.



A SUN ROOM TO THE RESIDENCE OF FRANKLIN PAYSON, PORTLAND, ME.  
MR. JOHN CALVIN STEVENS, ARCHITECT.

SUN PARLORS—See page 108.





PRIVATE STABLE.



RACING STABLE.



BROOD MARE STABLE.



FOALING STABLE.



HOSPITAL STABLE.



FARM STABLE.

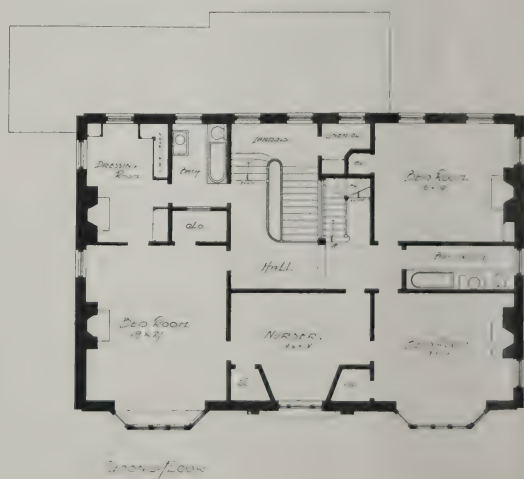
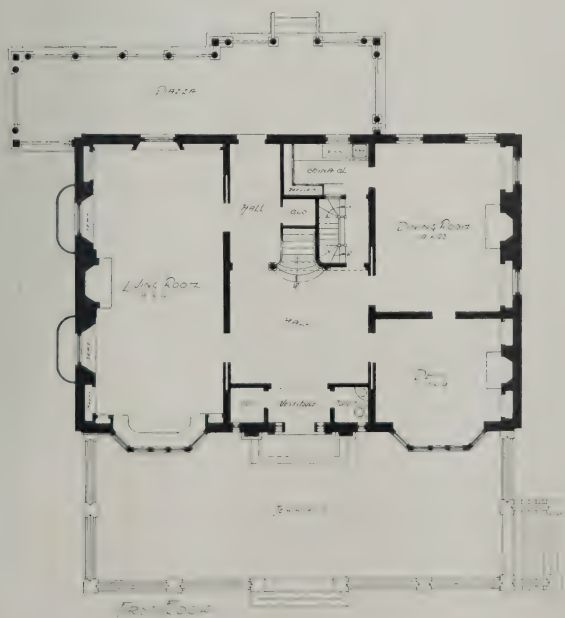


COW STABLE.



BANTAM HOUSE.





A RESIDENCE AT CHESTNUT HALL, MASS.—See page 107.

MESSRS. WINSLOW & BIGELOW, ARCHITECTS.



# THE HOUSE OF HERMAN B. DURYEA, ESQ., OLD WESTBURY, N. Y.

(Concluded from page 93.)

pilasters at the windows, all very beautiful in color. The ceiling is elliptical and perfectly plain. The lights are girandoles. There is no mantel, but an English stone fireplace. Above it hangs a portrait of Mrs. Duryea, by John W. Alexander. Directly opposite is a wonderful tapestry. In the corner is a series of shelves crowded with cups and sporting trophies won by Mr. Duryea. An open air room, identical with that on the end of the drawing-room, opens from the dining-room.

The plan of the house is spacious in a very literal sense of the word. The two chief rooms, the drawing-room and the dining-room, are large, and their positions at the extremity of the corridor cutting the oval hall puts them at some distance from each other. The oval hall, for its part, provides space for two corner rooms irregular in shape, which are used as sitting-rooms. One is especially set apart for the use of Mr. Duryea. It has dark green walls, on which are many old colored prints, photographs of yachts, and other sporting mementos. The mantel is of green marble, and the furniture of the same color. The other room is paneled in two shades of gray. The curtains are red with embroidered borders. The mantel is an old carved one, with an old mirror over it.

in the woods, which have been cleared away somewhat in its immediate vicinity.

From the formal garden the exterior of the house is seen in its more ornamental aspects. If the entrance front is somewhat severe in its general treatment, the design of the inner front has a much lighter and more joyous manner. The windows of the two wings and of the center have each a paneled relief above it. In the center is a curved pediment over Roman Ionic columns. Above a balustrade appears the outer wall of the upper portion of the oval hall, itself oval in form, with a paneled cornice and decorated panels on either side of the central window. All the roofs are shingled and lowly pointed. It is a brilliant exterior from the garden, the exterior of a building quite palatial in scale and palatial in expression. Every single feature, the decorated walls, the delightful end porches, the novel trellises, the water garden in the center, the blooming plants and vines, all help in creating an ensemble of very great charm and interest.

NOTE.—The illustrations of the Duryea estate have been taken from "American Estates and Gardens." Munn & Co., publishers.

## A COLONIAL COTTAGE AT SPRINGFIELD, MASS.

The Colonial house which is shown on page 98 was built for Mrs. N. S. Day, at Springfield, Mass. The

plated plumbing. The third floor contains the servant quarters and ample storage room. A cellar, cemented, contains a furnace, fuel rooms, and storage space. Cost \$6,000 complete.

The house was built by William H. Dexter, of Springfield, Mass.

## RESIDENCE OF ROBERT C. WALSH, ESQ., MORRISTOWN, N. J.

THE house of Robert C. Walsh, Esq., at Morristown, N. J., is illustrated on pages 96 and 97. It was built on a side hill lot, having a fall of about ten feet, and on account of the prominence of the site, as well as its exposure, a special scheme of construction was found necessary in order to insure physical comfort and a pleasing architectural sky-line. The rear of the house being much lower than the front, and it being the breezy quarter in summer and the sunny quarter in winter, it was decided to place the kitchen, laundry, etc., in the basement, in order not to obstruct the upper rooms. The basement ceiling is ten feet high, and the floor wall is out of the ground all along the rear, so that the outlook, air, and sunshine are the same on this story as on the upper ones. In addition to the kitchen and laundry, the basement contains the cellar larder, store closet, toilet, and conservatory, the latter being placed under the first story piazza.



MR. DURYEA'S DEN—HOUSE OF HERMAN B. DURYEA, ESQ., OLD WESTBURY, N. Y.

A flight of marble steps leads from the center of the oval hall to the upper corridor, which is largely opened into it. Here are Mr. and Mrs. Duryea's rooms, the latter a large, beautiful room, with a boudoir adjoining it in the corner of the house. All these apartments are delightfully furnished, each with its own scheme of harmonious decorations and its own special color. More stairs lead to the upper third story, the corridor here forming a picture gallery. The rooms are entirely set apart for guests, and are arranged en suite with bathrooms. Each is furnished in chintz, very beautiful in color, and very charmingly varied.

The space immediately without the house at the back forms the formal garden. In the center, between the drawing-room and the dining-room, is a long pool, with a fountain at one end. At the farthest extremity this garden is enclosed with high trellises of wood, painted green, with a high niche of the same material directly opposite the two ends of the wings. Brilliant beds of flowers surround the house and enclose the trellises. The arches of the end porches are similarly trellised, with extensions on the side walls, already, although the house is very new, covered with flowering vines. Then, from either side, extend two broad grassed walks, bounded with privet hedges, beyond which are solemn rows of cypress. These are beautiful stretches of green grass, reaching off on the one side to the trees, and on the other to a roadway. Behind the bounding trellises is a thick wood which spreads away in all directions, the whole house, both front and back, being set

underpinning is built of red brick laid in red mortar. The exterior above this underpinning is covered with narrow clapboards on the exterior, and is painted a deep Colonial yellow with white trimmings. The roof is covered with shingles, and is stained a deep red color. Dimensions: Front, 34 ft.; side, 41 ft., exclusive of piazza. Height of ceilings: Cellar, 7 ft.; first story, 9 ft.; second, 8 ft. 6 in.; third, 8 ft.

The entrance is through a vestibule into the hall, which is trimmed with white wood and treated with white enamel. It contains an ornamental staircase with white balusters and newel posts and a mahogany rail. The reception-room is treated in a similar manner, and it is separated by an archway supported on posts, with paneled bases. The library is finished in mahogany, and is provided with a bay window with a paneled seat, and an open fireplace furnished with a tiled hearth and facings and a mantel. The dining-room is finished with quartered oak, and it has a fireplace with tiled facings and hearth. The butler's pantry has a separate china closet, with bowl, dresser, and cupboard, and it has also drawers, dresser, etc. The kitchen is trimmed with white wood finished naturally, and it is provided with a sink, pot closet, rear stairway, and a large entry, which is ample enough to admit ice box.

The second story is trimmed with white wood, treated with ivory white paint. It contains four bedrooms, five closets, linen closet, and a bathroom, the latter furnished with porcelain fixtures and exposed nickel-

The exterior was built with a view of having a minimum cost of maintenance, the work being of common rough brick and half timber work. The exterior wood-work is of cypress, left to weather finish, and the panels between timbers are plastered with lime and cement mortar in proportion to make it tough and durable. The roof is covered with shingles. The exterior metal work is of copper. The exterior trim is not painted, nor will ever require paint, for it improves with age, instead of deteriorating as painted work does.

The first and second floor plans are given in the illustration. It will be noted that the closets are large, and are all well lighted and ventilated wherever possible. The vestibule has a tiled floor, and is reached from the level of the street. Upon entering, a short flight of stairs leads to the level of the hall. The interior throughout is trimmed with white wood treated with old ivory white paint.

The hall has a paneled wainscoting and a wooden cornice, and it contains an ornamental staircase of painted balusters and a mahogany rail. The reception-room is treated in an attractive manner, and has an open fireplace furnished with marble facings and hearth, and a mantel of Colonial character. The library is furnished with bookcases built in, and a bay window seat. The living-room is a very handsome apartment, and has a low paneled wainscoting, a beamed ceiling, with pilaster effect, and an open fireplace with facings and a hearth of tile and a quaint



Colonial mantel. An overmantel, formed by the pilasters, has a painting placed in the panel. The window seat, with the cluster of windows over the same, forms one side of the room, while at the opposite side of the room are French windows, opening out on to the piazza, which is enclosed with screens in summer and glass in winter.

The dining-room has a paneled wainscoting and a wooden cornice, and the wall space is covered with a crimson and white design of a large and artistic figure. The fireplace has tiled facings and hearth and mantel, with seats on either side. The rear hall is conveniently located, and the butler's pantry, of large dimensions, is well fitted with drawers, dressers, and cupboards, bowl, dumbwaiter, and a lift from the basement to the third floor.

The main staircase has a broad landing, containing a nook, with a paneled seat extending around the same, over which is a cluster of small windows. This floor contains five bedrooms, linen closet, and two bathrooms, the latter furnished with porcelain fixtures and exposed nickelplated plumbing. Three of the bedrooms have fireplaces, two of which have paneled seats on either side. The third floor contains the servant quarters and bath, and ample storage space, besides a studio.

Mr. Robert C. Walsh, architect, Morristown, N. J.

Flemish style, and has a paneled wainscoting, ceiling beams, and a corner seat. The kitchen is reached from the hall and also from the dining-room. It is fitted up with white porcelain sink, portable French range, gas range, pantry, etc. The woodwork is finished natural.

The second floor contains a long, roomy hall, six bedrooms, and two bathrooms; the latter are furnished with porcelain fixtures and exposed nickelplated plumbing. There are two medicine cabinets built in over the lavatory, with a plate glass mirror in the same. The third floor contains the servants' rooms and ample storage space. The woodwork in halls, bathrooms, kitchen, and pantry is of cypress, and the remainder of the house is trimmed with white wood. The side walls in the kitchen and bathroom are made to represent tile, and are treated with white paint and enamel. The first and second story floors are doubled, the top flooring being of hard wood. The hardware is of old copper finish. The house is wired for electric lights and is piped for gas.

Messrs. Oakley & Son, architects, Elizabeth, N. J.

#### STABLE SIGNS AT "DREAMWOLD," THE ESTATE OF THOMAS W. LAWSON, ESQ., EGYPT, MASS.

ONE of the most interesting features of Mr. Thomas W. Lawson's great estate at Egypt, Mass., shown on page 104, is the varied and beautiful wrought iron signs

#### A RESIDENCE AT CHESTNUT HILL, MASS.

THE residence which is illustrated on page 105 was built for Mr. Thomas H. Wales, Jr., at Chestnut Hill, Mass. It is designed in old Dutch Colonial style, and is constructed throughout of red brick laid in white mortar. Important features are the terrace at the front, with its massive balustrade, and the imposing entrance way, with its stately pilasters on either side. The trimmings are painted white. The roof is covered with shingles and left to weather finish. The terrace is provided with a floor paved with twelve inch Dutch tile. Dimensions: Front, 60 ft.; side, 45 ft., not including the terrace and piazza. Height of ceilings: Cellar, 8 ft. 6 in.; first story, 11 ft.; second, 9 ft.; third, 8 ft. 6 in.

The plan is that of a Colonial house, having a central hall with rooms on either side. The vestibule has a coat closet on one side and a toilet room on the other. The hall is treated with white enamel paint, and its staircase, with Colonial columns extending to the ceiling, is the principal feature. These columns, and the balusters and risers, are treated with white enamel, the treads are of oak, and the rail is of mahogany. There are also a paneled wainscoting and a massive wood cornice.

The living-room is treated with white enamel, and is provided with bookcases built in, a bay window with



THE HALL—THE RESIDENCE OF THOMAS H. WALES, JR., ESQ., CHESTNUT HILL, MASS.

#### RESIDENCE OF ALBERT B. DAVIES, ESQ., NEATHERWOOD, N. J.

THE residence illustrated on page 102 was built for Albert B. Davies, Esq., at Neatherwood, N. J. It has a brick foundation with stone footings, and the superstructure, of wood, is covered on the framework with sheathing boards. Iron lath are placed on the first story, and this story and cellar wall are coated with rough stucco. The second story and gables are covered with shingles and stained a reddish brown, while the trimmings are painted an ivory white. The roof is also covered with shingles and is stained natural. The veranda in the front of parlor has concrete floor and concrete copings around the same. The front door porch is of concrete, and the entrance is made to a vestibule which is level with the front stoop. There are steps which lead from the vestibule to the reception-hall. This hall, 16 x 18, opens from the rear of the same to a balcony, and at either side of the door is a paneled seat, over which are placed narrow windows of English type. This hall is finished in Flemish style, and contains a staircase, which extends up over the main hall entrance door, and opening from the stair landing is a door leading to a front balcony.

The parlor is treated with white enamel, and has a tiled fireplace with a cabinet mantel. The windows are in the design of the old English style glazed with clear glass. The library is finished in the Flemish style, and has bookcases built in and an open fireplace built of brick. The dining-room is also treated in the

attached to the stables and other outbuildings. These signs are each of a distinctive design, and consists of a bracket to which is attached a swinging sign ornamented with figures of horses with or without men or other animals, indicative, in each case, of the particular use of the building to which it is attached. Thus the private stable exhibits a driver mounted in a high cart driving two horses in tandem; the racing stable exhibits a man driving a fast trotter; the farm stable exhibits a huge work horse; the hospital stable exhibits a horse with an attendant veterinarian; the brood mare and foaling stables exhibit mares with their young. A crowing rooster naturally forms the sign of the bantam house, and the cow bespeaks the cow stable. A very considerable interest attaches to these signs, not only by reason of the extremely clever way in which the contents of the buildings are indicated, but also because of the very interesting design of the iron work to which they are attached.

Detailed account of Mr. Lawson's property appeared in the *BUILDING MONTHLY* for October in the series on "Notable American Houses."

THE site is an important element in the designing of a house. It can never be neglected nor ignored. The successful house in successful largely because its design is especially fitted for one site and for no other. This is an important factor in house design which is often forgotten.

paneled seat, and an open fireplace furnished with marble facings and hearth and a Colonial mantel. The library is trimmed with black walnut. There is an open fireplace of Roman brick, with facings and a hearth of the same, and a mantel of excellent design. On either side of the fireplace bookcases are built in. The room has a wood dado and cornice. The dining-room, a very large, spacious room, is trimmed with oak. The ceiling is beamed, and a paneled wainscoting is provided, extending around the room. The fireplace is built of Indiana limestone, and has a hearth of Dutch tile, a mantel-shelf, and overmantel. The butler's pantry is trimmed with pine and finished natural. It contains a sink, drawers, dressers, dumbwaiter, and a stairway to the cellar and also to the third floor.

The second floor contains the owner's room, nursery, two guest rooms, two bathrooms, dressing-room, and large closets. The owner's dressing-room contains an open fireplace and wardrobes built in. The bathrooms are paved and wainscoted with enameled tile, and are fitted with porcelain fixtures and exposed nickelplated plumbing. The third floor contains one guest room, three servants' rooms, and bathroom, cedar closet, and a trunk room. The cellar, or basement, contains the kitchen, pantries, storerooms, cold storage, furnace, and coal rooms. The space is well utilized and admirably arranged, and the fittings are of the most modern description.

Messrs. Winslow & Bigelow, architects, No. 3 Hamilton Place, Boston, Mass.



### THE COUNTRY HOUSE OF GEORGE McCULLOUGH MILLER, ESQ., MORRISTOWN, N. J.

THE country seat of George McCullough Miller, Esq., at Morristown, N. J., which is illustrated on pages 100 and 101, is a house of noble character, and is planned and designed in a pure Colonial style of the Georgian period. The building is constructed of wood, and the entire exterior is covered with clapboards, and is painted pure white, including the Ionic columns, which are two stories in height. The hall, eighteen feet in width, runs directly through the house; at its end is a Colonial staircase, rising up to a broad platform, which forms a balcony; a short flight of steps rises up to the second floor from this platform. Underneath this landing is an open fireplace, built with tiled facings and hearth, and a mantel of Colonial style furnished with columns, etc. The hall is trimmed with white pine, painted white enamel. It has very handsome door casings and a paneled wainscoting.

The drawing-room is treated in a similar manner as the hall, and has an open fireplace with Mexican onyx facings and hearth, and a mantel of Colonial style. On either side of the doorway leading into the library there are niches built in and furnished with shelves for bric-à-brac, etc. The library is also trimmed with white pine treated with white enamel. There are paneled wainscoting, bookcases, and an open fireplace built in. The den is conveniently placed, with an outside entrance, and is fitted with a paneled seat with closets on either side.

The dining-room is trimmed with mahogany. It has a paneled wainscoting, beamed ceiling, and an open fireplace. The butler's pantry, of unusual dimensions, is well equipped with all the best modern conveniences. The butler's room is on this floor and is entered from the service hall. The second floor is treated with white paint, and contains a den, four bedrooms, linen closet, and three bathrooms, besides two servants' rooms in the extension. Three of the bedrooms and the den have open fireplaces. The bathrooms are furnished with porcelain fixtures and exposed nickelplated plumbing. There are several rooms, besides ample storage space, on the third floor. The cellar, or basement, contains a kitchen, servants' hall, bathroom, store pantry, butler's pantry, laundry, cold storage room, furnace and fuel rooms.

Mr. Charles Alling Gifford, architect, 18 East Seventeenth Street, New York.

### A GATE LODGE AND STABLE AT ROSEMONT, PA.

THE photographs and plans shown on page 99 present a combination gate lodge and stable at Rosemont, Pa. The building, as designed, presents an admirable exterior effect, and an interior arrangement that is complete in all of its many details. The building is constructed of Port Deposit granite, quarry face, and is laid up in broken range, with very wide pointing. The cut stone trimmings are of Indiana limestone. There is some good carving on the medallion in the front gable, and the heavy oak beam over the entrance to the front shed is ornamented in a similar manner.

Great care has been taken to insure a very well lighted and ventilated stable. Advantage has been taken of all the available space in order to accommodate as many horses and carriages as possible in the least amount of space. The carriage house, which occupies the center of the plan, separating the stable from the living quarters of the building, is lined from the floor to the ceiling with Eastern hydraulic press bricks; a wainscoting is formed by using dark Pompeian brick, with lighter bricks above. The floor is cemented. The ceiling is beamed with chestnut, and is finished to a dull gloss. There is no woodwork or plaster to be damaged by the moving of carriages. There is a separate room for carriage washing to the left of the shed as one enters the carriage house. The stable is trimmed with yellow pine and is stained and varnished. The floor is laid with a three-inch plank, and it has a one and five-eighth inch maple floor on top, and all carefully drained to the gutters. Special attention has been given to the drainage system of the en-

tire building. In the stable proper, an iron gutter with perforated cover runs behind the stalls, with a branch half way up into each stall. Each box stall has a separate drain. The harness room is conveniently located, and is furnished with all the best modern conveniences.

The living quarters of the building, which form the main entrance to the estate, contain all the improvements of a first class house. This part of the building is trimmed with white pine, and is treated with ivory white paint. The first floor contains a sitting-room, a central hall, dining-room, and a kitchen, while the second floor contains four bedrooms, closets, and a bathroom. The part of the building over the stable contains ample storage space for hay, etc.

Messrs. Duhring, Oakie & Zeigler, architects, Philadelphia, Pa.

### SUN PARLORS.

THE addition of a sun parlor to a house has become a frequent feature of modern building. It is, of course,



ESTATE OF THOMAS GRINNELL, ESQ., NEW BEDFORD, MASS.



ESTATE OF MRS. EDWARD C. JONES, NEW BEDFORD, MASS.

### OLD-TIME GARDENS.—See page 92.

In most cases, simply a porch enclosed with glass; sometimes a structure on the roof serves for this purpose and is equally available. Illustrations on page 103 show two sun parlors of different types. One is from the house of Franklin Payson, Esq., at Portland, Me., of which Mr. John Calvin Stevens, of the same city, was the architect. The other room is built on the roof of General Harrison Gray Otis's house at Atlanta, Ga., of which Mr. John Krempel, of the same city, was the architect. The latter room serves the double purpose of a solarium and a conservatory.

### NATHANIEL HAWTHORNE ON ARCHITECTURE.

It is in his note books that Hawthorne is best seen as a critic of architecture. And yet it is hardly fair to call his notes "criticism." They were jotted down at the moment for himself alone, and were meant simply to assist in keeping alive an impression. Hawthorne in his journals is in undress, and, as his son has reminded us, is entertaining, and not asserting, opinions and ideas. The New England novels and stories may be almost left out of account in an inquiry concerning

Nathaniel Hawthorne and architecture. They were all written before Hawthorne had seen any real architecture at all. And the romance "Transformation," written with the fullness of a residence in Rome, is concerned more with painting and sculpture than with architecture. The note books, however, are full of passages of great interest describing Hawthorne's impressions of well-known buildings both in England and Italy. The value of his criticism is that the writer comes to his subject with a perfectly fresh mind and, above all, with a mind full of a pure love of the beautiful, and with a controlling sense of artistry in his nature. This supreme sense of artistry is manifest in the literary craftsmanship of his American tales, but till his visit to Europe it had never been brought face to face with the creations of the painter, the sculptor, and the architect. "The House of the Seven Gables," it is true, presents us with a strong picture of a New England dwelling—a seventeenth-century timber-framed house—but the colors, though strong, are not distinct. The house, although it gives its name to the

book, is not its central figure, as the cathedral of Paris is in Victor Hugo's great novel. It is but the setting of the story, and the impression left of it is rather a vague one. Though Hawthorne gives many details concerning the building, you can not reconstruct it from his pages. This was no doubt because, to use his own words, "I never had any particular house in my mind when I wrote the story. It was just a fancy of my own."

But it is in "The House of the Seven Gables" that he puts into the mouth of one of his characters these curious words: "We shall live to see the day, I trust, when no man shall build his house for posterity. Why should he? He might just as reasonably order a durable suit of clothes—leather, or gutta-percha, or whatever else lasts longest—so that his great-grandchildren should have the benefit of them and cut precisely the same figure in the world that he himself does. If each generation were allowed and expected to build its own houses, that single change, comparatively unimportant in itself, would imply almost every reform which society is now suffering for. I doubt whether even our public edifices—our capitols, state houses, city halls and churches—ought to be built of such permanent materials as stone or brick. It were better that they should crumble to ruin once in twenty years, or thereabouts, as a hint to the people to examine into and reform the institutions which they symbolize." This idea, of how we are crushed down by the dead-weight of the past, is a constantly recurring one with Hawthorne, and finds expression over and over again in his journals. The British Museum is a nightmare to him on this account, but in other moods he sees a more cheerful side to the picture, and even rejoices over such links with the past as our Gothic cathedrals afford.

We must not literally take it as Hawthorne's own thought that each generation should build its own houses, but one of his preferences for Gothic architecture lies, perhaps, in the fact that he found the medieval ruins of England apparently far older and more decaying than the classic ruins of Italy. "The Italian climate," he says in "Transformation," "robs age of its reverence and makes it look newer than it is. Not the Coliseum, nor the tombs of the Apian Way, nor the oldest pillar in the Forum, nor any other Roman ruin, be it as dilapidated as it may, ever give the impress of venerable antiquity which we gather, along with the ivy, from the gray walls of an English abbey and castle. And yet every brick or stone which we pick up among the former had fallen ages before the foundation of the latter was begun. This is owing to the kindness with which Nature takes an English ruin to her heart. She strives to make it part of herself, gradually obliterating the handiwork of man, and supplanting it with her own mosses and training verdure, till she has won the whole structure back. But in Italy, whenever man has once hewn a stone, Nature forthwith relinquishes her right to it, and never lays her finger on it again. Age after age finds it bare and naked, in the barren sunshine, and leaves it so."



That it was not altogether a matter of climate that Hawthorne had in his mind we may deduce from an entry in his journal about this time, in which he says, "Everything of Gothic origin has a faculty of conveying the idea of age; whereas classic forms seem to have nothing to do with time, and so lose the kind of impressiveness that arises from suggestions of decay and the past." This marks a great change from the speaker in the Seven Gables. And a little later, still in full sympathy with the past, he says, "Roman ruins do not impress me with their antiquity. They belong to quite another system of society and epoch of time, and in view of them we forget all that has intervened betwixt them and us, so that we look across a gulf to the Roman ages, and do not realize how wide the gulf is."

After some months of residence in Italy, with much time given to pictures and sculpture and architecture, he writes, "I am partly sensible that some unwritten rules of taste are making their way into my mind; that all this Greek beauty has done something towards refining me, though I am still, however, a very sturdy Goth." And later he writes, "There is something, I do not know what, but it is in the region of the heart rather than in the intellect, that Italian architecture, of whatever age or style, never seems to reach."

Two of Hawthorne's criticisms of Italian buildings of different age and style may be given here. The first is of Giotto's campanile at Florence. "It is like a toy of ivory," he says, "which some ingenious and pious monk might have spent his lifetime in adorning with scriptural designs and figures of saints; and when it was finished, seeing it so beautiful, he prayed that it might be miraculously magnified from the size of one foot to that of three hundred. This idea somewhat satisfies me, as conveying an impression how gigantesque the campanile is in the mass and height, and how minute and varied in its detail. . . . In the gem room of the Uffizi you may see fifty designs elaborated on a small scale, that have just as much merit as the design of the campanile. If it were only five inches long it might be a case for some article of the toilet; being two hundred feet high, its prettiness develops into grandeur as well as beauty."

St. Peter's he declares to be very ineffective "like all the other architectural works of Michel Angelo." "He has made of it as little as could possibly be made of such a vast pile of material. He balances everything in such a way that it seems but half of itself. . . . It is woeful to think how the vast capaciousness within St. Peter's is thrown away, and made to seem smaller than it is by every possible device as if on purpose."

Although during the time he was in England, Hawthorne lived mostly in Liverpool and its neighborhood, he was in the habit of taking long excursions, and by this means saw a great deal of the country. He has put on record his impressions of some dozen English cathedrals, including Lincoln, Lichfield, York, and Salisbury. These four seem to have impressed him the most. But he is always conscious of his want of real understanding of architecture (he speaks of "the audacity of my ignorance"), is in despair at his attempts to describe what he has seen, and feels that "it is wicked to look at these solemn old churches in a hurry." Nevertheless his impressions are full of a very real interest, and his criticisms show acumen and knowledge, even if it is not real understanding.

At his first sight of York Minster he is not greatly impressed "because it is rectangular in its general outline and in its towers, and seems to lack the complexity and mysterious plan which perplexes and wonder-strikes me in most cathedrals." But a year later he unreservedly gives his allegiance to York. "York Cathedral is the most wonderful work that ever came from the hands of man. Indeed, it seems like 'a house not made with hands' but rather to have come down from above, bringing an awful majesty and sweetness with it; and it is so light and aspiring, with all its vast columns and pointed arches, that one would hardly wonder if it should ascend back to heaven again by its mere spirituality."

He compares Lincoln with York. "Its (Lincoln's) exterior is certainly far more beautiful than that of York Minster; and its finer effect is due, I think, to the many peaks in which the structure ascends, and to the pinnacles which, as it were, repeat and reecho them into the sky. York Cathedral is comparatively square and angular in its general effect; but in this at Lincoln there is a continual mystery of variety, so that at every glance you are aware of a change and a disclosure of something new, yet working an harmonious development of what you have heretofore seen."

Lincoln, indeed, "took possession" of him, and would not let him be at rest. The west front was miraculously grand and full of spiritual beauty. "It does not impress the beholder as an inanimate object, but as something that has a vast, quiet, long-enduring life of its own—a creation which man did not build, though in some way or other it is connected with him and kindred to human nature." Then, conscious that this is not criticism, he exclaims, "In short, I fall

straightway to talking nonsense when I try to express my inner sense of this and other cathedrals."

His general impression of English cathedrals he sums up in these words, "Cathedrals are almost the only things (if even those) that have quite filled out my ideal here in this old world; and cathedrals often make me miserable from my inadequacy to take them wholly in; and, above all, I despise myself when I sit down to describe them."

A modern church closely imitating the medieval architecture and arrangements draws from him this criticism, "I think the time must soon come when this sort of thing will be held in utmost scorn, until the lapse of time shall give it a claim to respect. But, methinks, we had better strike out any kind of architecture so it be our own, however wretched, than thus tread back upon the past." It was because he was such a sturdy Goth that Nathaniel Hawthorne took no pleasure in the Gothic Revival.

Of modern half-timber houses he writes, "Such houses, like all imitations of bygone styles, have an air of affectation; they do not seem to be built in earnest—they are no better than playthings, or overgrown baby-houses, in which nobody should be expected to encounter the serious realities of either birth or death. Besides, originating nothing, we leave no fashions for another age to copy when we ourselves shall have grown antique."

It may be said of Hawthorne, as of Ruskin, that his attitude to architecture was that of the moralist. He approached it from the esthetic and philosophical side, not from the historical or professional. He, however, never posed as a teacher, or even as a critic, in matters of art, and it may, therefore, be urged that to speak of his "attitude" to architecture is an exaggeration. Into all Hawthorne's appreciation and criticism the heart entered as well as the intellect. But the heart never entirely took the place of the intellect; it only corrected its judgment. "It seems to me," wrote Hawthorne, "that a work of art is entitled to credit for all that it makes us feel in our best moments, and we must judge of its merits by the impression it then makes, and not by the coldness and insensibility of our less genial moods." Between St. Paul's and Westminster Abbey there was to him "in their relations to the human heart" as much difference as between a snow-bank and a chimney corner.—F. H. Cheetham, in the Builders' Journal.



#### LOCAL MATERIALS.

GENUINE old English cottages and houses invariably add a charm and beauty to the landscape, as the old builders, by force of circumstances, were compelled to use the local materials, and what is native to the neighborhood fits in most appropriately with the scenery. The very simplicity of the builders of the seventeenth and eighteenth centuries saved them from flagrant mistakes. They made direct for comfort and convenience without troubling overmuch about ornament, and where these are there can be little real ugliness. Their work was the result of evolution growing out of the wants which the builders had to satisfy, and of the natural material at their command. I think sufficient stress can not be laid upon the fact that it was the being compelled to use only the materials to hand that made old work so restful, and that modern building suffers through our not being sufficiently self-reliant in the use of the materials of the districts we are building in. It is the present day taste for cheap ornamentation and pretentiousness, and the importation of strange features, that spoil so many houses, the bringing of the jarring notes of town life into the peace and simplicity of the country. There are very few country districts in England that do not contain even to-day much excellent local material, either stone or brick, chalk or flint, and if, before deciding the materials of our house, a careful search were made and inquiries instituted about them, one's work would not only be better, but much more appropriate to its surroundings.

There is no need, because a railroad line will bring bricks and slates within a mile or two of your new house, to use those materials. As architects, we should try to foster and encourage all local industries and trades, for it is better to build with the same materials that have been used for centuries than with those out of harmony with the district. Years ago, and to some extent even to-day, one could tell by glancing at the buildings not only what were the local materials, but almost in what part of England you were in. Each district was stamped with its special

characteristics, not of style and date, but of material. The admirable way which the Kent and Surrey builders used the tiles for roofs and wall hanging always excites our admiration; in Norfolk, where we get brick and flint buildings with pantile roofs, the latter interspersed with diapers and patterns of glazed tiles; in Berkshire and the brick districts of the Thames valley how characteristic are the simple yet dignified houses with the red walls and white windows; then the stone districts of Gloucestershire and the Midlands, the timber buildings of Cheshire and Lancashire, all speak eloquently in their own particular vernacular a language not to be mistaken or confused with the work of any other part of the country. To-day all this delightful tradition seems to be abandoned, and we use all sorts of materials, regardless of their appropriateness, in every part of the country—green Westmoreland slates in Kent, red tile hanging in the heart of stone districts, and stone houses in the center of brick ones. Consequently, like everything else, there is a spirit of unrestfulness pervading much of the country house architecture, and it does not seem to fit its surroundings, and looks uncomfortable and out of place.

Many will say this is altogether an absurd view to take—to limit the materials of a building to those obtainable in the vicinity—but I feel that, in face of the fact that such beautiful work has been done in the past with these same materials there is no sound reason, except that of mere novelty, for the introduction of foreign ones, and to break entirely with the traditional use of the local materials seems quite unnecessary. I do not, of course, mean that we should copy and reproduce the local styles of architecture, for that is merely an archeological forgery—but we should design our new buildings in as modern a spirit as we wish, but using the materials at our command, the very fact that in so doing we shall be more or less governed by the same conditions and limitations as the old builders will give our work to-day a certain continuity of design and feeling in harmony with the old. Before commencing to build in a new district, it is always advisable as well to study the old methods of building in the neighborhood, and to learn all you can from local builders and workmen. Much valuable knowledge will be obtained in this way, for it is surprising what shrewd and practical men some of these old country builders are, and what useful lessons in construction and the proper use of local material can be gained from them.

Architects, as a rule, do not sufficiently study the materials they are working in, and forget that details and moldings that look well in one material do not do so in another. In the treatment of the exterior of a country house, material has a great deal to do with the general effect, and if this is not studied properly, however well the house may be grouped and balanced, the final result will be disappointing. It is out of place to get a variety of materials in one house, such as brick and tile hanging, half timber work, rough cast and stone, as we should remember that in the country the texture and color of the walls play a far more important part than a number of features in different materials. It is the introduction of so many and various styles that makes many country houses to-day so unrestful and out of place. They should not be treated externally with nearly so much minutiae of detail as houses in town, where narrow frontages compel us to concentrate our detail and form, so as to attract attention. In the country a breadth of treatment is absolutely essential to the repose and dignity of the whole composition, and this can never be obtained if the wall surface is broken up with ornament and unnecessary detail. If we analyze the reason why so many old houses are so pleasing in appearance, I think you will find that it is because the builders have more or less confined themselves to the use of one material, and that this has been treated in a simple and rational way, and the detail generally kept as quiet as possible. It is the introduction of "features" that spoils the effect of many modern houses.—E. Guy Dawber, before the Liverpool Architectural Society.

#### PEWTER.

PEWTER has the merit of never looking common or cheap, while always looking homely and usable (says an exchange). Hence it fits admirably with the present taste for genuine primitive furnishings. For the bungalow or country house, where silver appointments might seem pretentious, the well-modeled pewter articles just fill the need.

The best pewter takes a high polish and lasts for generations. Being costlier than the nicked or lacquered wares, it is much better liked by householders who value unusual possessions.

Quaint pewter boxes for dressing-table trinkets, incense holders, and rose jars of ancient Chinese and Japanese make are among late importations. Some of these are hammered out in designs similar to those seen in ivory carvings.





## The Household

### WEDDING COFFERS.

THE very agreeable suggestion is made that wedding coffers may "come in" again. It has been a couple of hundred years or more since they went out, and they would, therefore, be so very novel to the present generation as to be entirely new. The coffers, of course, formed part of the wedding outfit of every bride, and often were genuine works of art, those of rich and noble brides being exceedingly costly and very beautiful. Even now they are still regarded with a species of veneration in Holland, the Dutch women being especially jealous of them and rarely selling them even if in actual want. The indefatigable collector, however, is not disturbed by sentimental opposition such as this, and hence many of the great museums have acquired numerous examples of them, and individual collectors have also obtained splendid specimens. The art value of these coffers is often very great, and a revival in their use would offer interesting opportunities to the wood carvers and painters of the present day.

### THE SMALL FAMILY AND THE HOME.

PHILOSOPHICAL observers continue to bewail the fate of the small family and its efforts to provide itself with a home, at once pleasant and happy, interesting and agreeable. Here is Mrs. Loomis rising up at a recent conference on home economics to protest that "the small family can no longer compete with large establishments, because the larger household offers club life among employees instead of isolation in the midst of a family; the work of a specialist instead of a jack-of-all-trades; and independent existence instead of the life of a slave." This is very sad, and it would be sadder if it were completely true. Home life does, to a considerable extent, depend on the servant problem, and that has never yet been solved to the satisfaction of all concerned, and perhaps never will be, the tendencies of things and life being what they are. But the real difficulty is not in the size of the family, but in the extent of the income. Families of two, served by a retinue of servants, are not unknown in America, and rich bachelors, housed in the same sumptuous manner, are heard of from time to time.

### THE EQUIPMENT OF SICK-ROOMS.

THE furnishing and arrangement of sick-rooms are valuable aids to recovery. A room on the sunny side of the house is to be preferred, and it should have two windows at least and an open fireplace. The top floor is often found the best. In cases of contagious diseases the room should be completely isolated from the rest of the house. The bed should be placed so the patient can look out of the window and in the lightest part of the room. It should stand entirely free, except at the head, so the nurse can approach it from either side. Metal beds are found to be the most desirable. Use as little furniture as possible, and all of it should be of a sort readily cleansed. A couch for the nurse is often essential. Rugs are to be preferred to carpets, as they can be more readily cleaned. Carpets, however, need not be removed, but should be covered with sheets, and changed or disinfected by sprinkling as often as needed. Hangings should be removed. The desired temperature will vary with the disease, but in all cases must be kept even.

### A WEDGWOOD DINING-ROOM.

A DAILY paper describes a dining-room built up around a genuine Wedgwood sugar bowl and cream pitcher. The owner was lucky enough to possess these treasures, and the very happy idea occurred to her to utilize them as the leading element in the furnishings of her dining-room. It is all in Wedgwood green and white. The woodwork is white, that pure white of the cameo designs on the Wedgwood ware. The walls are covered with book linen in that deep sage green of the Wedgwood. There is a white plate rail all around the room, and the colors in the different bits of china on that are the only contrast to the general green and white of the scheme. There is a green and white cotton rug on the floor and white muslin curtains at the windows. The dining table and chairs are all in white enamel, the chairs upholstered in green denim to match the walls. They were ordinary cheap chairs, home enameled. The table ferns were in a Wedgwood dish, and the table china was pure white. It was a fine idea, carried out in a very beautiful but quite simple manner, and enormously successful.



## The Garden

### FRUIT TREES FOR THE ROAD.

THE planting of fruit trees for the shading of roadways is a suggestion that has been brought forward more than once. On the face of it the idea has quite a good deal to be commended in it. Nothing more beautiful could be imagined for the spring, and nothing more delightful for the small boy could be thought of for the fall. Thus a very large part of our population would have something to be thankful for and something to rejoice in. It is true the interests of those who take delight in blossoming trees and those who enjoy taking forbidden fruits are somewhat wide apart; this, however, would seem but the more firmly to establish the wisdom of the suggestion. As a matter of fact, however, the small boy is himself quite a sufficient reason against such planting near the cities and villages. The mimic man simply can not be taught to know that fruit which does not grow on his father's grounds does not belong to him. Farmers and others certainly would not feel encouraged to plant fruit trees unless they had a reasonable expectancy of gaining for themselves the larger part of the crop.

### A VERBENA REVIVAL.

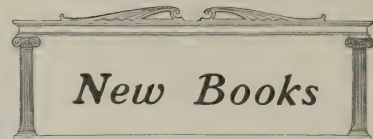
THE verbenas, both as a bedding plant and one grown for exhibition purposes, has long ceased to be a favorite both with gardeners and with the public. It is, however, a useful, brilliant plant, and some years ago some special efforts were made to develop it which, for a time, were enormously successful. As early as 1855 an English florist produced some remarkable plants, with flowers of great size and beauty. Somewhat later another gardener produced some plants with large and finely rounded "pips" borne on bold, symmetrical trusses. These plants were grown under glass and for exhibition purposes only, and never came into bedding use. Still another experimenter brought the verbenas to a high degree of development as a bedding plant. In making new efforts to improve the verbenas the grower should seek to produce rounded flat "pips" well displayed on bold trusses. The profusion of bloom which characterizes this plant can only be secured by careful selection.

### THE WINTER GARDEN.

THERE is hardly a limit to the plants, especially bulbs, which may be grown in the winter season. The hyacinths are, of course, the favorite, but the narcissi is almost equally popular. The anemones are not in such general use, but are very similar to the narcissi. They should be planted early, one bulb being allowed to each four-inch pot. An inch or more of broken crockery, charcoal, or pebbles should be placed in the bottom of each for drainage. A soil composed of rich garden loam and old, well rotted manure in equal parts, with a trowelful or two of soot and ashes to a dozen pots, insures brilliancy of flower and foliage. The extreme point of a hyacinth or narcissus bulb may be allowed to appear on the surface of the earth, but anemones should be covered about an inch. Each pot should be plainly marked with date and contents, watered moderately, and kept in a dark place, but care should be taken that rats and mice do not nibble these succulent seeds during the hibernating period.

In something like six weeks these may be removed to a sunny window, with an even temperature of about 70 degrees. Water freely, so that the saucer is never dry. This is especially important with anemones, as even a temporary failure in the supply of moisture is almost sure to blast the buds. A window garden should have plenty of fresh air, but be shielded from drafts, as these often prove fatal to flower stalks. A portable screen that can stand between the garden of bulbs and any sudden inroad of air is a valuable possession. Removal to a north or east window will greatly prolong the blossoming time of most bulbous plants. As anemones, however, send up a succession of flower buds, they do best in continuous sunshine.

If a more rapidly grown plant be desired, nothing better than the Chinese sacred lily can be found. These require but two or three weeks' time after planting and less care than any other class of bulbs. Place as many as can stand in the bottom of a bowl or glass dish. As the necessary nourishment is contained in the bulb, and the water only serves to set it free, there is no danger of crowding. Cover these with pebbles about half way up, and then cover the whole with water. Chinese lilies do not require a high temperature, much finer results being secured in something like 56 degrees, and no harm being done in instances where a thin coating of ice has formed over the water.



## New Books

### MODERN COTTAGE ARCHITECTURE.

MODERN COTTAGE ARCHITECTURE. Illustrated from works of well-known architects. Edited by Maurice B. Adams, F.R.I.B.A. London: B. T. Batsford. New York: John Lane, 1904. 30 pp., 50 plates. Price \$4.50 net.

The building of small houses, of the class popularly known as cottages, continues to attract general attention, notwithstanding the greater interest manifested in larger dwellings. Mr. Adams's book is of English origin, and the examples shown are exclusively English; but his collection of drawings is a very varied one, his designs are well chosen, and, as illustrations of the work of the best known contemporary English architects, have a real and distinct value. The plates have been made direct from the drawings, and include perspectives, elevations, and plans.

The introductory essay prefixed to the book presents an interesting analysis of the problems concerned in cottage design. The author discusses such practical questions as the economic conditions, the economical aspect of artistic buildings, methods of appropriate building, use of local materials, site, sanitary arrangements and fittings, water supply, arrangement and aspect of buildings, windows, roominess, parlor plans, staircases, doors, bedrooms, heights of rooms, ventilation, fittings, baths, outside shelters, use of materials, and other topics, including a consideration of the "week-end" cottages which have recently become popular. The text, in addition, includes comments on the subjects illustrated, and a very complete descriptive list.

The book is a serviceable one, full of interesting suggestion, and very comprehensively illustrated. The illustrations include houses of varying cost, some of the cottages being quite simple and low in price, while others are of more elaborate design. It is a useful book, dealing with an important subject.

### A HANDBOOK FOR THE ARCHITECT.

THE ARCHITECT'S AND BUILDER'S POCKET-BOOK. A handbook for architects, structural engineers, builders, and draughtsmen. By Frank E. Kidder, C.E., Ph.D. 14th edition. xix + 1656 pp. New York: John Wiley & Sons, 1904. Price \$5.

Dr. Kidder's Pocketbook has been so long before the public that at this late day hardly more than a hearty welcome for the newest edition is needed. First published nearly twenty years ago, it has steadily made its way in professional favor, until, with its fourteenth edition in the present year, the author is enabled to make the agreeable announcement that 20,000 copies in all have been issued. This undoubtedly speaks more eloquently of the success and value of the book than any words of critical comment or praise.

The present edition, however, is very much more than a reissue of earlier printings, but is a complete rewriting, which has very much extended the scope of the original book, and introduces many features not to be found in the earlier issues. The author's point of view in the present revision has been to make a reference book which should contain some information on every subject, except design, likely to come before an architect, structural engineer, draughtsman, or master builder, including data for estimating approximate cost, to thoroughly cover the subject of architectural engineering so far as practicable in a handbook, and to present all information in as simple and convenient a form as possible as would be consistent with accuracy. Where it has been impossible, for lack of space, to go extensively into any subject, references to other books have been given. No effort has, in fact, been spared to make the book convenient and valuable. It is a book so abounding in information, so well arranged, so admirably selected as to contents, as to be at once welcomed with universal satisfaction. It is helpful in a thousand ways, and thoroughly convenient and useful.

The result is a stout volume of nearly 1,700 pages, printed on thin paper, and illustrated with more than 1,000 engravings. The volume is, of course, much too large for a pocketbook; but, as the author rightly intimates, the convenience of having all this material in one book quite offsets any awkwardness of bulk. The pages are small in size, the illustrations likewise much reduced, but the presswork is admirable, and leaves nothing to be desired. The contents of the book very completely fulfil the promises of the title page. Its value is enhanced with a capital index.





## The Chimney

### SMOKY CHIMNEYS.

THE chief cause of smoky chimneys is the lack of air supply at the base. A cubic foot of fresh air must be provided for every cubic foot of smoke that passes up the chimney. In an airtight building time is often the architect's ally; for every minute settlement and every infinitesimal shrinkage provides an additional air inlet. But buildings specially constructed should have special ventilation. Even then some flues will smoke, because tenants persist in closing up the inlets. Warmed fresh air is almost unobtainable; of all the warm-air stoves in the market I do not think that one can produce twenty-five per cent. of the air which it consumes, and most of them dry the air too much and warm it in an inaccessible chamber. Anything in the nature of a plenum system is costly to maintain, and even more costly to install. Architects, therefore, can only supply fresh air from the outside, and trust that the tenants will use the inlets. But tenants, more often than not, consider fresh air a draft and ventilators an unnecessary fad. Air inlets are least objectionable when near the ceiling, as that position allows the fresh air partially to lose its chill before reaching the occupants of the room; high inlets are also useful as outlets, when the fire is not lighted. The best form seems to me to be a "hit-and-miss" grating at the side of a chimney breast into a flue that finishes just above the roof, with cast iron gratings on opposite sides. I have several times seen air inlets brought close to the grate—in one case the air was led into a copper curb perforated at intervals; the arrangement was ingenious, but in practice was not a success, as the air whistled out and blew the ashes about the room. Inlets direct through the wall, on the old Sherringham principle, are generally inconvenient, unless the room has two outside walls; otherwise the best lighted and most valuable space becomes the most drafty. Fanlights and ventilators through internal walls are more likely to be used. A flue, no matter how carefully constructed, does not have a fair chance unless an adequate air supply is introduced through the ceiling, floor, outside or inside wall.

Given an air supply, the next consideration is the flue. The majority of architects and builders feel certain that a 14 inch by 9 inch flue is much too large; and the proportion is stupid. The opening at the junction of the grate and the flue is seldom 36 square inches, and often much less. Chimney-pots vary in area from 40 to 60 square inches. Therefore, why so many by-laws insist on over 120 square inches for the flue is incomprehensible. A 9 inch by 9 inch flue can be more thoroughly cleaned, and works well enough in districts where the by-laws permit. A 9 inch flue-liner has an area of about 60 square inches, and a 10 inch flue-liner of 78 square inches; my experience seems to show that they whisk the air away much more quickly than a parged 14 inch by 9 inch flue, in spite of its greater area. Liners fail to hold soot, which is continually falling down into the fire; and with no fire they make a down-draft smell very strongly of soot. The absence of corners seems to invite a down-draft, or else the smoothness tends to make the upward action in some flues so strong that they pull from others. Parging is a non-conductor, but has little value, and is seldom permanent.

Chimney-pots have this in common: the more efficient, the uglier; but the reverse is not as true, as potmakers would have us believe. Pots with the ordinary zigzag rim cause an up-draft much as the V in the body of a kite forces it up. Louvers, trumpet-mouths, spirals, and many other horrors force up the smoke when the wind blows; but even an Archimedian revolving cowl or a lobster-back is useless in still weather. Trumpet-mouthed blowers, or drain-pipes with the socket outward, built into a stack at an angle of 45 degrees, a few feet below the pot, will sometimes cure a flue that is only troublesome when the wind is in one particular quarter. The value of at least two bends is always insisted on in specifications, but in practice the bends are often scamped, and are difficult to provide in the attics, especially when the fireplace comes between other flues. The reason for the undoubted advantage of bends is not obvious. The contraction which is usual in making them may have something to do with it; they may act slightly as baffle-plates, and, of course, the top bend catches the rain and helps to keep the lower part of the flue dry; probably under various atmospheric conditions all these reasons may have some truth in them. The height of the chimney stack is of the greatest importance; but again the reason is not obvious. When the wind blows at right angles to the ridge, the velocity must be greater nearer the ridge, and probably steadier.

When the wind is not at right angles to the ridge, I can not see how it can affect the flue. If the straightness of the flues in the chimney-stack above the roof helps the force of the smoke, it is curious that bends should be useful below. There can be no appreciable difference in temperature or atmospheric pressure at the top of two flues, one of which is five feet higher than the other; yet we know that five feet extra height to a stack may work wonders. That it is advisable to keep a flue warm is more obvious, for as soon as the smoke approximates in temperature to the atmosphere its tendency to rise is lost. All outside stacks should have 9 inches of brickwork between the flues and the weather. Single flues should be avoided, and above the roof it is better to have 9 inches of brickwork on the most exposed side and end, even if there is only 4½ inches round the rest of the chimney.

The plan of a stack and the direction of the wind seem to have no connection. A chimney much exposed to a west wind is just as likely to be satisfactory with its axis north and south as east and west. It is better to have the middle pots in a long stack raised a little above those at the ends, but the flue at the leeward end is just as likely to draw well as that at the windward.—Hastwell Grayson, before the Liverpool Architectural Society.



## New Building Patents

The following list of New Patents relating to Building and Sanitary Science is prepared expressly for the SCIENTIFIC AMERICAN BUILDING MONTHLY by MUNN & Co., Solicitors of American and Foreign Patents.  
A PRINTED COPY of the specification and drawing of any patent in this list may be had, in duplicate, upon the payment of 10 cents, if exact date or number is furnished. Remit to MUNN & Co., 361 Broadway, New York.

### BRICK, STONE AND TILE.

MOSAIC. W. Malzer, London, England. September 13 769,704  
PLASTIC COMPOSITION FOR COVERING FLOORS. H. Linnekegel, Feuerbach, Germany. September 13 770,082  
BUILDING BLOCK. G. Gernerdt, New York, N. Y. September 6 769,530  
SLATING. J. H. Munro, Newark, N. J. September 6 769,664

### CARPENTRY.

GRILLE WORK. C. W. Smith, Norwalk, Ohio. September 13 769,719  
WEATHER STRIP. W. Pease, Hamilton, Canada. September 6 769,626  
WEATHER STRIP. W. Steger, Marietta, Ohio. September 20 770,330  
WEATHER STRIP. C. M. Rhodes, Steubenville, Ohio. September 20 770,444

### CONSTRUCTION.

COMPOSITE STRUCTURE. H. A. Crane, Jersey City, N. J. September 13 769,941  
BASE FOR PILLARS. C. E. Zimmermann, Syracuse, N. Y. September 13 769,976  
SHEET METAL LINING FOR WALLS OR CEILINGS. Ball and Wernet, Canton, Ohio. September 6 769,245  
WALL AND FLOOR BRACE. J. A. Ettler, Beaumont, Texas. September 6 769,839  
LAYING ROOFS. J. H. Munro, Newark, N. J. September 6 769,624  
COLUMN FOR METAL WORK. T. L. Sewell, Wilmington, Del. September 6 769,855  
WALL FOR BUILDINGS. F. E. Kidder, Denver, Col. September 6 769,656  
ROOF COVERING. J. H. Munro, Newark, N. J. September 6 769,663  
WALL STRUCTURE. G. B. Waite, New York, N. Y. September 20 770,616  
EXTENSIBLE CONCRETE. G. H. Wall, New York, N. Y. September 20 770,617  
CONCRETE AND IRON STRUCTURE. C. Redlich, Vienna, Austria. September 27 771,133  
WINDOW. O. M. Edwards, Syracuse, N. Y. September 27 771,154  
SPACE ECONOMIZING. H. C. Conant, San Francisco, Cal. September 27 771,154  
FIREPROOFING AND FIRE EXTINGUISHMENT.  
FIREPROOF DROP CURTAIN. J. H. Channon, Chicago, Ill. September 13 769,788  
WINDOW CONSTRUCTION. E. H. Lunken, Cincinnati, Ohio. September 13 769,803  
FIREPROOF SHUTTER. Beckmann and Bohle, St. Louis, Mo. September 13 770,042  
INTERIORLY-VENTILATED. FIREPROOF WALL. L. D. Ewing, Akron, Ohio. September 6 769,257  
FIREPROOF METAL WINDOW FRAME AND SASH. W. B. Gervais, Chicago, Ill. September 20 770,571  
FIREPROOF SHUTTER. S. B. Sexton, Jr., Baltimore, Md. September 27 770,827

### HARDWARE.

LOCK. B. Phelps, Seattle, Wash. September 13 769,767  
HINGE. W. Lovette, Marine Harbor, N. Y. September 20 769,769  
DOOR OR WINDOW LOCK. W. F. Martin, New York, N. Y. September 27 770,597

### HEATING AND VENTILATION.

WINDOW VENTILATOR. D. Schafer, Sacramento, Cal. September 6 769,570  
FLOOR REGISTER. J. T. B. Slater, Cleveland, Ohio. September 20 770,326  
VENTILATING APPARATUS. W. C. Whitestone, Savannah, Ga. September 27 770,947

### MISCELLANEOUS.

SCAFFOLD SUPPORT. W. J. Murray, New York, N. Y. September 6 769,395

### PLUMBING.

SIPHON CLOSET. B. O. Tilden, New York, N. Y. September 6 770,027  
WATER CLOSET. H. C. Waldmann, Kokomo, Ind. September 6 769,520  
VALVE. J. J. Wallich, Walpole, Mass. September 27 770,811  
WATER CLOSET BOWL. Helfrich and Kingsbury, Evansville, Ind. September 27 771,068  
WATER CLOSET. R. W. Schmalz, Evansville, Ind. September 27 771,098  
TUB. J. A. Caldwell, Rochester, N. Y. September 27 771,124

### TOOLS.

PLANE. E. A. Schade, New Britain, Conn. September 6 769,408  
ROOF FRAMING TOOL. J. Sprider, Col. September 27 770,770  
SHEPHERDING PLANE. J. Weyland, Los Angeles, Cal. September 27 770,881



## Publishers' Department

### RUBEROID ROOFING.

THE United States Government has placed an order for 864,000 square feet of ruberoid roofing, which is manufactured solely by the Standard Paint Company, No. 100 William Street, New York. The last order by the government for this material was for 1,500,000 square feet, and another previous order was for 1,000,000 square feet. These orders, together with several smaller requisitions, aggregate about 3,500,000 square feet of ruberoid roofing which has been ordered by the United States Government for the Philippines during the last two years. The significant feature of this late order is that the specifications were for asbestos. Upon further consideration, however, the government decided that, in view of the fact that ruberoid roofing had met every climatic and mechanical condition on the government buildings in the Philippines, it would be most advisable to use that instead of changing to untried materials. It is understood that the roofing just purchased is for use at the government possessions in the Philippines. Ruberoid roofing was selected a few years ago by the government because of its peculiar suitability to hot and variable climates, its convenience of application, and its low cost of maintenance. It will not melt from extreme heat, and will not rot from constant dampness and exposure, and is highly fire-resisting. Furthermore, it does not require constant attention to keep it in repair. Ruberoid roofing has become a staple article, is used on the finest structures, and is moderate enough in price for use on cheap buildings. Since it can be applied by any handy man, it is extremely useful in isolated places, where an experienced roofer can not be engaged.

### COMBINATION INDEX.

THE index described in this article is for use in indexing ledgers, letter books, commercial reports, and records of all kinds. Names are indexed by the first two and three letters of the surname, giving from four hundred to four thousand divisions of the alphabet, printed in notches or thumb holes cut in the edges of the leaves. The index opens instantly at any combination by the use of one hand, is specially adapted to the use of bookkeepers, and is no vowel index. It is called the "Burr Index," and is arranged with a projecting alphabet printed in gold letters on Russia leather folded over sheet steel. These letters are printed on both sides, projecting one-half an inch from the edges of the leaves, even with the book covers. When the book is open, the alphabet is seen at a glance, from either side, at any letter from A to Z, together with the combination of each letter. It can be used with either hand for any length of time without turning the covers of the book. The thumb holes are cut in the edges of the leaves, in which appear combinations of all names in use, and are so arranged when the index is opened at any letter, that the combinations of each letter appear in full, and do not conflict with those of any other letter. The combinations are also printed in the body of the book to locate the entry of the names. The location of any name may be found without any experimental turning of the leaves. For example, to find the name Swan, it is only necessary to turn to S, when the combination SW is seen at once, and only one turn of the hand is required to find the page. The same plan is used throughout the index. It is made by the Burr Index Company, No. 336 Asylum Street, Hartford, Conn., which firm also makes the Burr's "Record Index," the "Time-saving Trial Balance Sheet," and "Index Scrap Book." The "Record Index" is for the use of banks, insurance companies, assessors, State, county, town, and city clerks, for indexing deeds, wills, births, marriages, deaths, tax lists, court records, etc., and they have a capacity from 1,000 to 2,000,000 or more names. The company also furnishes card-indexes subdivided by the Burr system.

### METAL FENCES AND FENCE POSTS.

THE anchor fence post, as it stands to-day, is the product of over ten years' practical experience. Since 1893 it has undergone some slight changes, but the essential feature—the ground anchorage of the posts—is the same as then. Briefly described, it is a "drive post," through whose base two braces or blades are driven diagonally into the ground, and when so placed interlock with the base, bracing it on both sides of the fence. The fences mentioned in this article have been chosen for notice for one rea-



son, because, as far as we know, they are the only examples of the kind that use galvanized posts. The policy of the manufacturers has been not to produce the cheapest fences that can be turned out, but rather those that will be durable and will keep in line true after erection. With a view to carrying out this idea, the makers decided some years ago to galvanize the post bar of all line posts, that is, the post proper, exclusive of the blade anchorage. As this anchorage is entirely embedded in the ground, and is thus protected from the action of the weather, galvanic treatment of this part of the post is unnecessary; so also with the end and corner posts, as they are made of a very heavy section of steel. This important improvement makes the fences practically indestructible, and has been made without any increase in cost to buyers. The manufacturers of these steel fence posts and iron fences also make wrought iron railings and entrance gates, back stops for tennis courts, poultry runs, tree guards, pipe, hurdle, netting, lawn, field, and pasture, special fence, etc. It will be a help to those interested in new styles of fence to procure catalogue No. 25, issued by the manufacturers, the Anchor Post Company, No. 15 Cortlandt Street, New York, N. Y. All the specifications and illustrations are complete and clear, and associated with the particular fence, post, or gate system are real pictures of the localities they surround. Suggestions in reference to enclosing dog kennels, deer parks, sheep folds, poultry runs, tennis grounds, hunting boxes, cemeteries, orchards, hedges, gardens, race courses, etc., are bound to be appreciated by the seeker after information. One good feature of the scope of work laid down by the company, so as to give exclusiveness to the ownership of a design, is the non-repetition of special features. Each gate, for instance, is a distinct and individual accomplishment. The beautiful and imposing entrance gate at Woodlawn Cemetery, Woodlawn, from designs by Charles W. Leavitt, Jr., consequently can only be seen at that place. The firm makes a specialty of designing and constructing ornamental ironwork of all kinds for country property. It has built many miles of iron railing, and is familiar with details of invention and construction, and having lately put up a new factory, equipped with the best modern machinery, it is able to execute any service in the near future. Iron railings can be set either on a stone wall having a substantial coping, on stone blocks, or on cast iron foundations set in the ground. The use of iron foundations is recommended, as they are better in many cases than stone work.

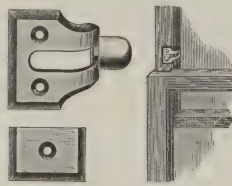
#### CYCLE MOTORS.

THE 1904 Barker motor is for all practical purposes a perfect machine. It requires little care in operation, runs a favorable length of time without attention, and can be repaired in case of accident with unsurpassed ease. It is a two cycle motor, and has less parts than the four cycle type. It has no gears, cams, or valves to wear or burn out, can be made very light for a given horse power, and it reduces vibration over one-half, as it receives two impulses to one for the four cycle. C. L. Barker, Norwalk, Conn., has recently established a new shop, with modern improved machinery and tools of the most approved types. With these advantages, dies, jigs, and gages for all the various parts of the machine are made so much better and so much more accurately than formerly, reaching on the most approved lines results that insure hard service. The French developed the four cycle motor, but owing to mistakes in design, they failed in experiments with the two cycle, which American skill and ingenuity have brought to a degree of efficiency surprising to the foreigner. Recent experiments made in France with an American type of two cycle and a French four cycle motor brought out the fact that for a given bore and stroke the former develops twice the power of the latter; and the fuel consumption, power considered, about the same in either type. Ideas introduced with the Barker motor are now being copied by many gas engine manufacturers. It was the first of its class built with the upper crank case, cylinder and head all in one piece, and with a self-contained and detachable sparking mechanism. The motor is built for business, and while it does not have as many angles, pipes, and fittings as others, it lacks none of their desirable features. Every bolt, nut, and screw can be easily and quickly reached, and the piston and connecting rod can be adjusted, removed, or replaced without disturbing the crank shaft, fly wheel, base, or head. A fine feature is the improved form of bronze journal used in connection with the patented base which keeps a continual flow of oil on the main bearings, and insures a uniform feed to the connecting rod and piston, and also prevents leakage of oil beyond the edges of the crank shaft bearings. No attention is required beyond the filling of the oil reservoir once during a day's run. Oiling begins automatically when the engine is started, and ceases when it is shut down. The motor can be run at as high speeds as other

makes, either two or four cycle, having the same cylinder dimensions. In appearance and power the apparatus is of the best type. The design is free from a lot of unsightly bolts and connections, and the proportions and general outlines are such as to destroy a monotonous effect. Bore, stroke, and speed are not all that figure in determining the power. Good proportions and well designed parts and igniting contrivance, as well as right mixture of air and gas, figure largely in the results attained. The celebrated "Barker valve," the "Barker leveler or bubble buster," the "sparking dynamo," the "battery switch," and the "spark coil" are made by this manufacturer. Installing motors is also a part of the business, and in connection with the machine shop is a modern woodworking plant equipped with the best machinery for the building of hulls up to thirty-five feet in length. Motor boats complete are built on orders mostly, but frequently there are on hand standard and fast models.

#### WINDOW VENTILATING LOCK.

THE H. B. Ives Co., New Haven, Conn., John H. Graham & Co., No. 113 Chambers Street, New York, selling agents, are placing upon the market the Ives window ventilating lock, as shown in the accompanying illustration. It is a simple device that requires neither mortising nor the boring of holes to apply, it being fastened by screws in the ordinary way. Being a permanent fixture, it affords extra security, in addition to the usual sash fastener, and also safety for ventilating rooms. It is a sure



VENTILATING LOCK.

safeguard, quickly applied and operated, insuring sure protection against intruders; children are kept in and burglars are kept out; and, therefore, it should be used on all windows in flats as well as sleeping apartments. That this old established firm manufactures this and other specialties for windows is a sufficient guarantee of the utility of the article mentioned. A miniature forty page catalogue of window hardware specialties will be mailed free upon application to all readers of the SCIENTIFIC AMERICAN BUILDING MONTHLY.

#### CEMENT BLOCK MACHINES.

THE wide range of blocks made by cement machines, of the "Hercules" stamp, includes keystones, octagons, circular stones, squares, etc., up to twenty-four inches wide and sixty long, and gives an exact reproduction of any style of rockface, plain, decorated surface, or any combination to suit the fancy of the builder. The apparatus for their production is made by the Century Cement Block Machine Company, and it can be considered a complete plant in itself. It is adjustable and makes an unsurpassed variety of sizes and styles of stone; in fact, duplicates such stone as a complete stoneyard furnishes. It makes, in addition to hollow and solid blocks of numerous sizes, water tables, window sills, door sills, coping, curbing, etc. The officers of the company have been for many years prominent operators of yards and quarries, and also among the first to engage in the manufacture of artificial stone. Knowing the large demand for a machine that would produce such stone as is required for different purposes of the building trade, led them to place upon the market a simple apparatus that can be manipulated by unskilled labor and within reach of an ordinary capital to engage in the business. The "Hercules" cement stone machine works on a principle which is entirely different from any other. Instead of the face of the block appearing on the side when in operation, it rests on the bottom; thereby tamping directly upon the face, getting every impression of the design and enabling the use of better material for the front of the block and coarser for the back. For instance, if desiring to turn out an exceptionally fine rockfaced block, the face can be made one part sand and one cement, one-half inch thick; then place the coarser composition back of it, thus saving considerable material and getting a better reproduction of the design. There is plenty of room to tamp in this construction, allowing the use of crushed stone and coarse gravel, thus saving much cement and gaining in strength of block. It tamps on the face of the block, and gets a harder and more compact surface, and by using a thin facing, two and one, the block is more impervious to moisture. The "Hercules" is so constructed that one can use either a wood or iron pallet, and a specially designed wood pallet is furnished with the device. By using wood pallets, blocks can be removed from the machine to be cured without any danger of cracking. Blocks 8 x 12 x 24 have been made by two

laborers in less than five minutes—a result possible only where there are no cogs, levers and other intricate mechanisms. Blocks can be laid in less time than bricks, and the same area of laying takes eighty per cent. less of mortar. A strong feature of the "Hercules" is that it can use coarser crushed stone and refuse from mines in the composition. Various colors of the most expensive stones can be produced by adding to the concrete inexpensive pigments. The claim that a ten-inch hollow block wall is equal in strength to a sixteen-inch brick wall may be realized as made on good ground when noting the great strides this method of construction is making in this country. Like the cement sidewalk, the block is invading every section and hamlet of the United States. Factories are appearing or have been established in vigorous operation, that are traceable from Maine to California. At the present and probably continuous high ruling prices on lumber, stone, and brick, the advantages of erection with artificial material are evident and supreme. The substantial value of the structures made of these blocks has gained the confidence of the building interests of the present, and to this may be added the security of feeling that the future exigencies of this interest are reasonably minimized by availability of cheap material for their easy production. Illustrations of this machine, methods of operating, and groups of blocks made by it, may be had by sending for the catalogue to the address, No. 20 Canal Street, Rochester, N. Y.

#### STABLE VENTILATION AND DRAINAGE.

THE ideal stable, remarks the Evening Post, should have the horses facing north, to obtain even temperature; it should not be too large, so as to keep the animal heat under control, and not have the stable temperature either materially raised or lowered when half a dozen animals are either taken out or brought in. The ventilation should be perfect and as strong as possible up to the iniquitous "draft" point. Let the ceiling be as high as convenient, and if the wise builder has left an inch or so open all around the upper edge, where the stablemen can not stop it up, all the better. No matter where the ventilation comes from, get it, and here comes in the weak link—the uncontrollable desire of the stablemen to keep the place too hot.

Drainage is another essential. It is idle to discuss drainage methods and facilities; their efficacy all depends on the man. One of the great troubles of the stable architect and of the amateur owner is that they will persist in planning the drainage as if to be operated by the most efficient set of men in the world, instead of passably inefficient. Given sloping stalls and gutter, what can be better than the world-old central open cistern which holds the accumulation of say twenty-four hours, and overflows when full, compelling attention? This, with free flushing of gutters, either direct from the faucet or by premeditated automatic direction of all horse toilette and wagon or carriage washing and sluicing, should be sufficient for all practical purposes.

Dry, wholesome flooring under foot is an absolute necessity. Brick floors once were tabooed as unsanitary, likely to let a horse slip, liable to sweat, to chip and cut a horse, etc., but most of these defects have disappeared. The new vitrified brick does not chip or fray; it insures perfect drainage, does not hold moisture, and consequently does not sweat, and being roughed and remaining so, is better footing than anything else but ground. In many places properly arranged slats, capable of proper care, cleansing, sun baths, etc., are satisfactory; in others, beds of gravel topped with eighteen inches of earth, which can thus be constantly changed, are in use, but as usual dependent on the grade of help employed.

#### GAS COOKERS VS. KITCHEN RANGES.

It may be taken that a gas cooking stove using gas at 75 cents per 3,000 cubic feet and a kitchen range with coal at \$4.00 per ton are about on a par as to cost. It is, however, very different with gas fires. With these the price of gas should be fully twenty per cent. less than in the case of cookers, otherwise the cost is much too high to allow of their general adoption. The sale of gas for the purpose of heat and power was never cultivated, but was rather held back by the majority of our gas authorities until competition began to face them in the shape of the electric light. The wedding together of the two businesses, that of "lighting" and that of "heating and power," was simply a "marriage of convenience," and though some gas authorities claim that the price of gas should be the same to all consumers, I am not at one with them in this contention, and consider that, like all marriages of convenience, this one (light and fuel) will come to an end, unless more favor is shown to the fuel. Though the gas sold in each case is exactly similar, the cost of that which is sold for heat and power is certainly considerably less than that which is used for lighting.—Building News.



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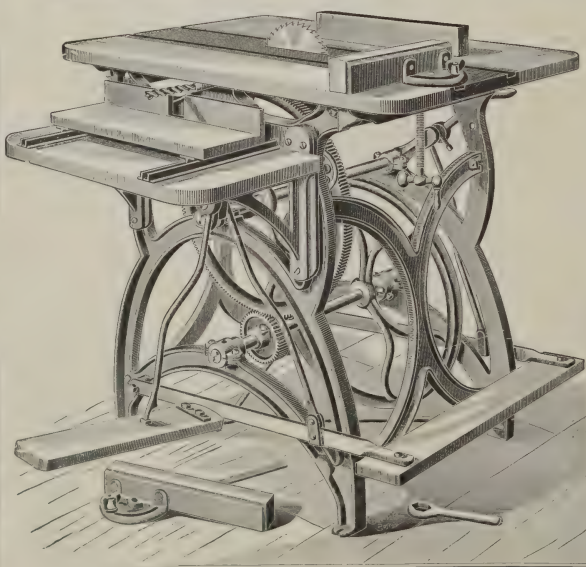


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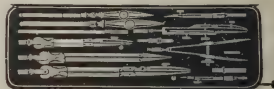
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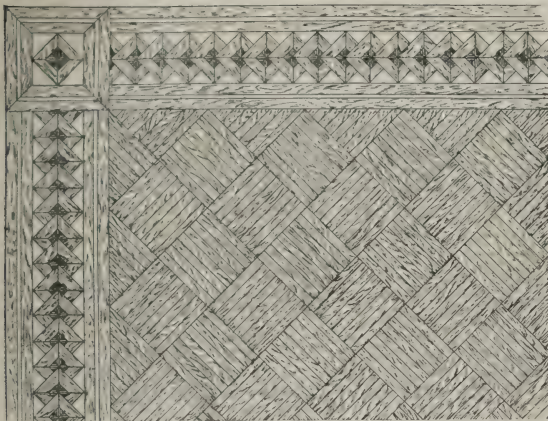


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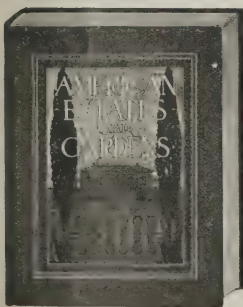
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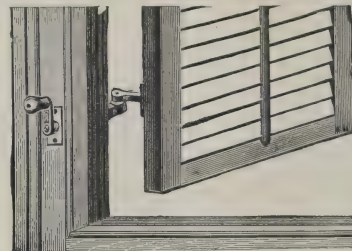
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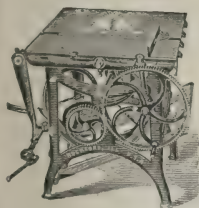
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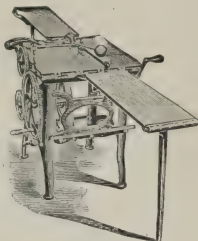
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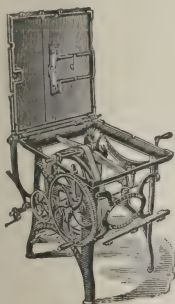
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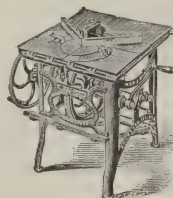
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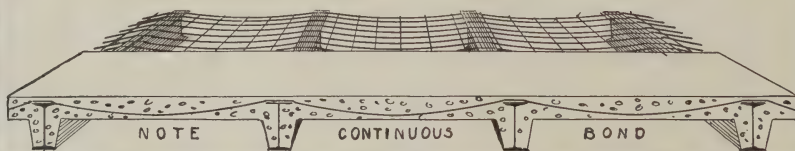
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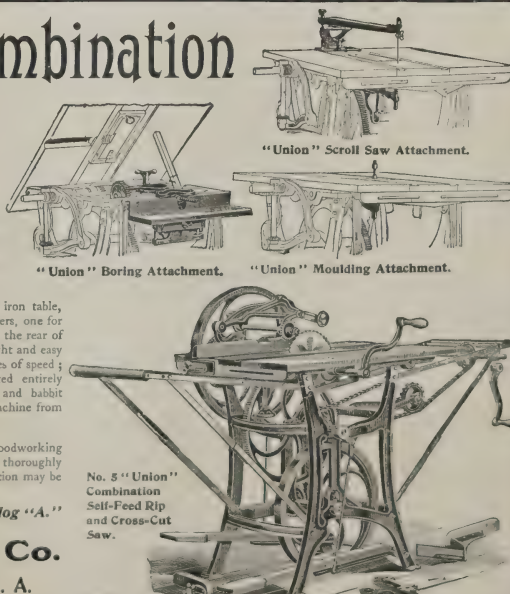
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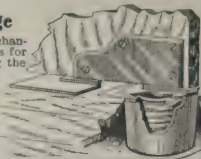


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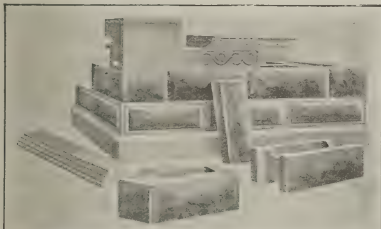
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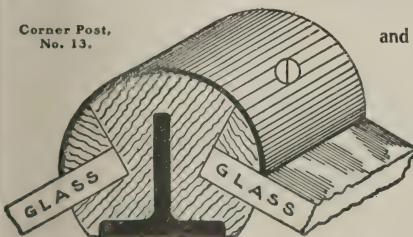
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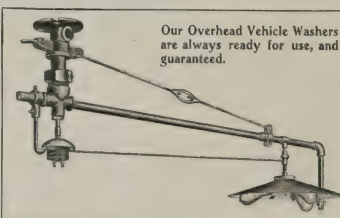
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## Building Monthly.



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No. 230

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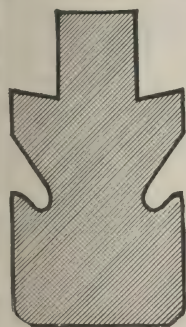
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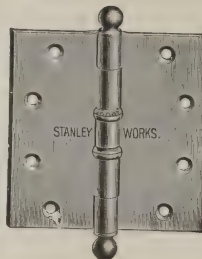
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THE SMALL SALON.

THE HOUSE OF MRS. RICHARD GAMBRILL, NEWPORT, R. I.—See page 115.  
MESSRS. CARRÈRE & HASTINGS, ARCHITECTS.





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\*The engravings presented in this issue are made from photographs taken specially for the SCIENTIFIC AMERICAN BUILDING MONTHLY.

## MONTHLY COMMENT.

THE BUILDING MONTHLY for 1905 promises several new and original features of special value to its army of readers. Barr Ferree's "Notable American Houses" will continue to be the leading feature of the magazine, and will treat of many new and important houses of great architectural beauty and much personal interest. Arrangements have also been completed for a series of twelve articles—one to be published each month—under the general title of "Helps to Home Building," dealing in a direct way with the practical problems that confront the householder in the building and furnishing of the home. The subjects include: "What the Home Builder Should Know," "Difficulties to be Overcome," "The Plan," "The Structure," "The Design," "The Rooms and Their Uses," "Furnishing the House," "Color," "The Arts and the House," "Living in the House," "The House Garden," and "The Persons Concerned," the latter being a careful consideration of the relationships existing between the owner, the architect, the builder and the family in the erection of a dwelling. These papers are the result of wide experience and observation; they attack the problem of home building from an entirely new standpoint; and are crowded with useful suggestions and stimulating advice. Another new departure will be a department entitled "Fifty Suggestions for the Home," a new compilation of household suggestion and advice drawn from the best and most authoritative sources. While in no sense a summary of recent writings on the house, this department will give the readers of the BUILDING

MONTHLY a host of valuable and timely suggestions in a more convenient and accessible form than is now obtainable. "The Garden Month by Month" will be another new and special feature, giving practical information on what to do in the garden each month. Interiors and interior details will be fully treated, and will form a regular feature of each issue. As for the regular features which have made this magazine so brilliantly successful, it is sufficient to point out that they will be maintained at the highest standard. The illustrations will be selected with the utmost care and will be presented in the best form of the engraver's and printer's art. The descriptions of the houses illustrated, which are based on personal observation, will continue to be a unique feature of this magazine. The departments, as heretofore, will be varied in subject, and will summarize the latest and best thought on all matters affecting the home that have architectural significance.

It may be well to repeat, at this time, a brief statement of the purpose and scope of the BUILDING MONTHLY which has appeared before in our columns. The distinct aim of the BUILDING MONTHLY is to help its readers to better building. The illustrations reproduce homes and other structures of the highest grade and of varying costs. It seeks to interest the architect, the house owner, the real estate promoter, the home maker and the builder. It stands for the good and the true and the beautiful in art. Its papers on "Notable American Houses" bring before its readers the best work of our most conspicuous architects in costly building. Its descriptions of houses are brief but compact with information. Its "Departments" constitute a "review of reviews" summary of current comment, suggestion and help in all matters relating to the construction of the home, its decoration, equipment and use. Now is the time to subscribe!

FIGURES covering the income and expenses of the Louisiana Purchase Exposition at St. Louis will soon be made public, and it will then be possible to know, with some accuracy, just what the loss occasioned by this gigantic enterprise will have been. That it will be large is quite certain, and that it will be greatly in excess of the most liberal estimates is most unfortunately likely to be true. Now that the exhibition has been practically brought to a conclusion it is thoroughly apparent that the brave people of St. Louis assumed a greater burden than they should have dreamed of undertaking. Infinite praise and credit must always remain with this inland city for the courage and energy with which they applied themselves to their gigantic task; but they simply did not have the local population on which a great exhibition must draw to be financially successful. And financially successful does not mean a balancing of income and expenditure, but an emergence from the proceedings with a reasonable deficit. The local populace is what must in every case make up the great majority of fair visitors, and, unless this be very large, there can only result dismal failure and disappointment.

## THE BEAUTY OF ARCHITECTURE.

THE beauty of architecture is its supremest quality; it is its finest and noblest expression. The aim and purpose of a building is to fill some human need; its beauty is the jewel with which the more homely construction is decked. It is the fine garment of loveliness with which the bride arrays herself. It is the supreme touch, the utmost point to which architecture can attain.

All architecture is not beautiful—how well we know it! All architecture is not intended to be beautiful; many buildings are, necessarily, poor and humble, slight and insignificant, even harsh and utilitarian. Some are so rigid in their lines, so purposeful in their use, so restricted in their ends, that beauty is the last quality they can hope to have, the last they should be thought of having.

Nor can all architectural beauty be of the same quality of loveliness. The beauty of one building is not that of another; the glory of one style is not that of another; the taste of one age is the taste of its age alone, and not of that of previous or past epochs. The standard of architectural beauty varies with nationality and with age. It is as varied as the standards of human beauty.

Surely this is no detriment, for it gives an added zest to architectural enjoyment. It is as unthinkable that all buildings should look alike as that they should all have the same purpose and be used by human beings identical in mind and in appearance. It is the glory of architecture that it meets every possible requirement. True, it is the human mind which directs and produces this result, but architecture is the medium through which the end is accomplished.

So we may rejoice and delight in architecture because of its variety—its variety of form, its variety of materials, its variety of ornament, its variety of utility,

its variety of beauty. Utility stands at one end of the scale, beauty at the other; and the noblest structure is that in which each quality puts forth its utmost effort; in which each has its own part to perform and does its best. For utility and beauty can not strive against each other. A structure in which some utility is lost because way must be made for beauty fails in true architectural expression; exactly as the untrue man fails when put to the test. And a building in which beauty is sacrificed to utility is likewise false and wanting and can not boast the highest merit.

Beauty in architecture is an exacting mistress. It demands everything. Half way measures will not bring it. Half hearted effort will not win it. Make-shift expedients will not accomplish it. Architectural beauty admits no failure; it must be good and true, complete and sound, thorough and entire. It must be right. That it is costly adds to its merit. That it is difficult to obtain adds to its splendor. That it is rare and unusual means beauty itself.

Yet a little beauty is not to be despised. On the contrary, it is to be welcomed as an oasis in a desert. It is a quality so rare and so inspiring that a little of it may redeem and glorify a building generally sordid and uninteresting. It is never to be belittled because there is not much of it. Better, by far, a little beauty than none at all. Better one supreme part, one inspired feature, one manifest effort, than nothing at all.

It appears to be an innate characteristic of the human mind that it does not always rise to the height of finest expression. The greatest masters in art have nodded, and nodded more than once. The works of even the supremest minds are not always of the same degree of excellence. It is human to fail, and human to be unequal and uneven. So architecture, the most human of the arts, fails and nods when the very best is to be expected of it. And so general is this rule, so many are the failures of the art, that the wonder is, not that these failures exist, but that any success, any artistic success, any success of pure beauty, should be obtained at any time.

It is more important there should be some beauty than none; but unless this is good and true, refined and elevating, it is not beauty in the highest sense, but an artificial product which too loudly proclaims the inefficiency of its human inventor. "Almost beautiful" is, it is true, a pet phrase and one that frequently rises to the lips; but the limiting word is but an admission that it is not beauty at all, but simply something which is not beauty.

Beauty being the supremest quality of architecture, it follows that it is an essential quality. No building can, by any possibility, be too beautiful, and every building should be as beautiful as it can be. There may be reasons, and the best of reasons, why beauty can not penetrate every part of a structure. It may be of a nature that will not permit it; the cost may not allow it, the ability of the designer—alas that such limits should exist!—may forbid it. Of excuses there is an abundance, and very many of them real and true. But the ardor of the beauty lover is not lessened because of circumstances over which he has no control or of whose existence he may have no knowledge.

Beauty that is beauty, real beauty, is never forced in architecture. It is a natural product, fitting gracefully the structure to which it belongs. The moment it assumes an artificial air, the moment it seems out of place, it ceases to be beauty and becomes a hybrid product for which there is no name. It is a quality that belongs to architecture by right.

It is the most difficult of all qualities to obtain. Architecture is never an easy art; beautiful architecture is its most difficult phase. The creation of beautiful things is easier to some men than to others, but pure beauty is never easy, although it is never labored. The greatest artists have ever been the hardest workers, and genius has well been defined as akin to a capacity for labor.

If beauty can only be had by means of hard work—which means simply consummate ability—it is certainly never obtained by stringing adroit ornaments upon a building otherwise inoffensive. Ornament is not beauty, but beauty is ornamental. The addition of parts to a building which may in themselves be beautiful, and yet which have no real place either in function or in design, will not make a building beautiful. The multiplication of detail, even of a refined and delicate quality, will not, in itself, give beauty, although the parts may in themselves be truly beautiful. The intrusion of unnecessary features will not bring beauty. The striving after effort which is manifestly striving will not redeem an otherwise un-beautiful building.

It is sense and right that give beauty; it is appreciation of purpose; it is purpose rightly used; it is care and distinction; it is penetrating thought; it is exquisite workmanship; and, above all, it is appreciation of fitness. All these things make for beauty in a building and help toward obtaining it. Sometimes one will be more helpful than another, but behind the whole scheme must lie thought and effort.



## NOTABLE AMERICAN HOUSES\*

BY BARR FERREE.

THE HOUSE OF MRS. RICHARD GAMBRILL,  
NEWPORT, R. I.

The startling beauty and daring originality of Mrs. Richard Gambrill's house give it high rank among the notable houses of America. It is one of the most individual mansions in Newport, a house of refined beauty, admirably studied in all its parts, yet of truly spontaneous design. It is delightful to find a house of which so much can be said, and much more could be added, for the house is one of very penetrating charm, and will more than hold its own in comparison with other houses of similar grade and cost.

For that it is a costly house is at once apparent from the mere fact of its erection in our summer capital; it is much more interesting to observe that its very distinguished air and the idea of splendor it so naturally conveys were obtained by the simplest means. Described in the briefest words, the house is a rectangular structure covered with a high pointed roof. The walls, moreover, are so bare of projections—and of ornament—that quite special emphasis is given to the string course below the windows of the second

is built. Each has, it is true, a carved keystone, and those of the first story are assimilated with a carved decoration under the shallow balconies below the upper windows; these balconies, moreover, are supported on carved brackets, and are enclosed within wrought iron railings; but the ornamental features are very subdued and restrained, and handled with a fine appreciation of the values of notes of emphasis in a wall otherwise completely plain and featureless.

The cornice alone has firm projection; but it is very beautifully modeled and forms a happy base for the great roof with which the house is crowned. And this is splendid—a roof so high and fine in silhouette as to give distinction and character to the building—a roof that not only covers the house, but covers it grandly. It is two stories high, with two tiers of windows. The rule of structural simplicity which is so marked in the lower part of the house obtains here as well; for while the lower series has simple pointed roofs, and the upper are happy little ovals, neither contains an ornamental element which detracts in any way from their structural severity. But they are agreeable dormers for all their plainness and are in complete harmony with the lower parts of the design.

The final feature of the roof is the chimneys. Of

mental value. Plain as the body of the house is, the ornamental features of the exterior are very marked. Messrs. Carrère & Hastings have, in fact, suppressed the wall ornament that greater emphasis might be given to the doorways and loggias. The former are quite monumental in design, and consist of round arched portals, contained within double columns, which support an entablature on which is a balustrade that forms the central balcony of the two main fronts. The detail of these doorways is very beautiful and is in splendid contrast with the sobriety with which the adjoining walls are finished.

The loggias, however, are the chief distinction of the house and its most conspicuous ornament. They are brilliant pieces of design, richly decorative in their effect and enormously individual. And this is not the less true because they have no structural affinity with the building to which they are attached. Their large round arched openings are not found elsewhere; their flat roofs and crowning balustrades characterize them alone; and yet one realizes, instinctively, that it was to heighten the effect of these lovely porches that all the rest was kept as quiet as could be; that the very essential differences in design are at once a bond of sympathy between the various parts of the whole; and



THE LOGGIA—THE HOUSE OF MRS. RICHARD GAMBRILL, NEWPORT, R. I.

story, and—let it be frankly stated—to the water pipes that are deliberately applied to the main walls. As the basis for an interesting ensemble in house design it would seem impossible to have less, and yet from these very simple materials has been created a dwelling that is easily one of the most individual houses in America, a house, moreover, the designing of which must have been an occasion of fine delight to its architects, and the possession of which must be a special pride to its owner.

The body of the house is a good study in wall design. Even the windows have no external frames, but are sunk within the thick white stucco of which it

these the main building has ten, four on each face and one on each end. They emerge from the sloping roof midway between the dormers, whether the measurement be taken between the two series or between the windows. They are plain, severe stacks, ornamented only with the simplest of moldings at their summits, and being of the same height—although those on the ends emerge at a higher point than those on the sides—they have a very striking and characteristic effect.

I have spoken at some length of the simplicity which characterizes the main portion of this house, not only because it is a quality so essential to this design, but because it is a quality comparatively rare in Newport palaces. A sumptuous exterior is so characteristic of the great Newport house that a house not plentifully bestrewn with ornament is almost unknown. Yet here is a house so simply designed as to be almost severe in its chief parts, and yet thoroughly delightful and individual. As a matter of fact, the fine proportions, the admirable spacing of the voids and solids, the treatment of the carved ornament—very slight, indeed, but very admirably used—serve at once to give this design a rare distinction of its own. Were there nothing else it would still be interesting and merits warm commendation.

But, as a matter of fact, there is a good deal else, and that of very striking interest and deeply orna-

mental value. Plain as the body of the house is, the ornamental features of the exterior are very marked. Messrs. Carrère & Hastings have, in fact, suppressed the wall ornament that greater emphasis might be given to the doorways and loggias. The former are quite monumental in design, and consist of round arched portals, contained within double columns, which support an entablature on which is a balustrade that forms the central balcony of the two main fronts. The detail of these doorways is very beautiful and is in splendid contrast with the sobriety with which the adjoining walls are finished.

The loggias, however, are the chief distinction of the house and its most conspicuous ornament. They are brilliant pieces of design, richly decorative in their effect and enormously individual. And this is not the less true because they have no structural affinity with the building to which they are attached. Their large round arched openings are not found elsewhere; their flat roofs and crowning balustrades characterize them alone; and yet one realizes, instinctively, that it was to heighten the effect of these lovely porches that all the rest was kept as quiet as could be; that the very essential differences in design are at once a bond of sympathy between the various parts of the whole; and

These ornamental features, therefore, so transform and embellish the severe central portion as to completely change the whole character of the design. The house no longer appears as a simply walled building with so many windows let into its surface, but is a dwelling of great individuality and beauty, delightfully ornamental in its full effect and of very marked originality of design. It is a brilliantly successful house and one of rare charm.

The grounds which surround it have been arranged in fine harmony with it. The building stands on a terrace, much of which is enclosed within balustrades. The approaches of the two fronts—the garden front and

\* Previous articles in this series: "Biltmore," THE ESTATE OF GEORGE W. VANDERBILT, ESQ., BIRMGTON, N. C., February, 1903. "THE GARDEN AT 'GEORGIAN COURT,'" THE HOUSE OF GEORGE J. GOULD, ESQ., LAKEWOOD, N. J., August, 1903. "HARBOR HILL," THE ESTATE OF CLARENCE H. MACKAY, ESQ., ROSLYN, N. Y., September, 1903. "THE ORCHARD," THE COUNTRY SEAT OF JAMES LAWRENCE BREESE, ESQ., SOUTHAMPTON, N. Y., November, 1903. "THE RESIDENCE OF W. L. STOW, ESQ., ROSLYN, N. Y., December, 1903. "WHITE HALL," THE HOUSE OF HENRY M. FLAGLER, ESQ., PALM BEACH, FLA., JANUARY, 1904. "FAULENER FARM," THE ESTATE OF MRS. CHARLES F. SPRAGUE, BROOKLINE, MASS., March, 1904. "THE HOUSE OF E. J. BERWIND, ESQ., NEWPORT, R. I., April, 1904. "GREY CRAIG," THE ESTATE OF J. MITCHELL CLARK, ESQ., NEWPORT, R. I., May, 1904. "BLAISDEN," THE ESTATE OF C. LEDYARD BLAIS, ESQ., BERNARDSVILLE, N. J., June, 1904. "KILDYSART," THE COUNTRY SEAT OF DANIEL O'DAY, ESQ., PEAL BEACH, N. J., July, 1904. "THE ESTATE OF HENRY W. POOR, ESQ., TUXEDO, N. Y., August, 1904. "THE COUNTRY SEAT OF STANFORD WHITE, ESQ., ST. JAMES, L. I., N. Y., September, 1904. "DREAMWOLD," THE ESTATE OF THOMAS W. LAWSON, ESQ., EGYPT, MASS., October, 1904. "THE HOUSE OF HELMAN B. DURYEA, ESQ., OLD WESTBURY, N. Y., November, 1904.





THE DINING-ROOM.



THE LARGE SALON.

THE HOUSE OF MRS. RICHARD GAMBRILL, NEWPORT, R. I.—See page 115.  
MESSRS. CARRÈRE & HASTINGS, ARCHITECTS.







THE PERGOLA.



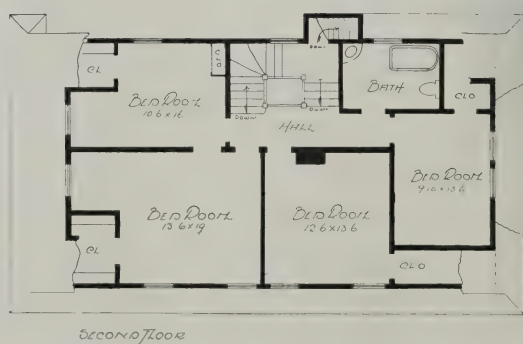
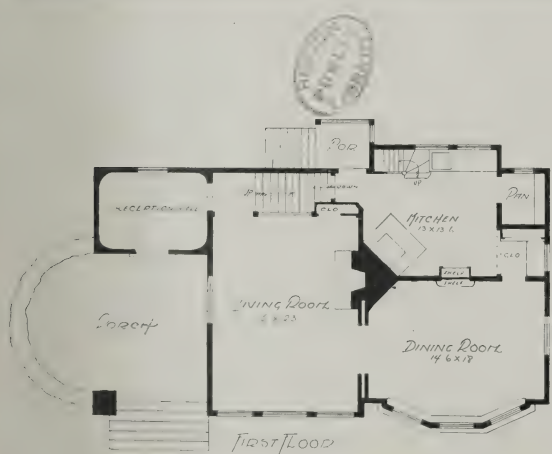
THE GARDEN FRONT.



THE HALL.

THE HOUSE OF MRS. RICHARD GAMBRILL, NEWPORT, R. I.—See page 115.  
MESSRS. CARRÈRE & HASTINGS, ARCHITECTS.





A HOUSE AT MONTCLAIR, N. J.—See page 129.

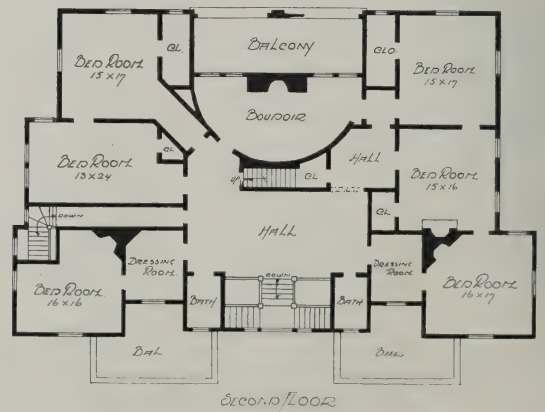
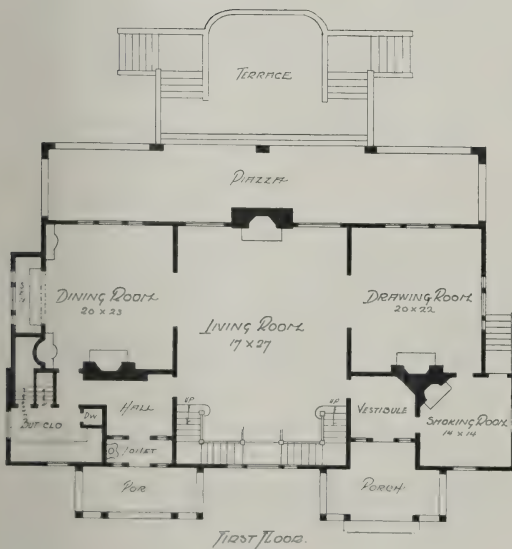
MR. E. R. NORTH, ARCHITECT.





THE HOUSE OF ARTHUR A. ADAMS, ESQ., BROOKLINE, MASS.—See page 128.  
MR. ARTHUR H. BOWDITCH, ARCHITECT.





"REVERIE COVE," THE SUMMER HOME OF MRS. M. C. JONES, BAR HARBOR, MAINE.—See page 129.

MR. FRED. L. SAVAGE, ARCHITECT.





THE DRAWING-ROOM.

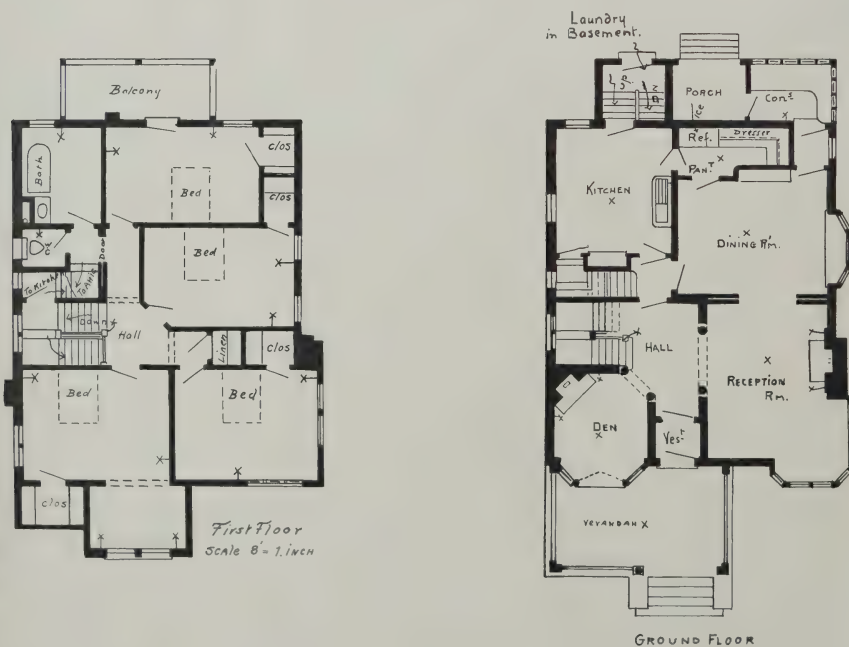


THE LIVING-ROOM.

"REVERIE COVE," THE SUMMER HOME OF MRS. M. C. JONES, BAR HARBOR, MAINE.—See page 129.

MR. FRED. L. SAVAGE, ARCHITECT.





A COTTAGE IN TORONTO, CANADA.—See page 128.

MR. R. J. EDWARDS, ARCHITECT.





THE HOUSE OF ALBERT M. HUNT, ESQ., AUBURNDALE, MASS.—See page 130.  
MR. THOMAS W. JAMES, ARCHITECT.





FIRST FLOOR PLAN.



SECOND FLOOR PLAN.



THE HALL AND STAIRCASE.

THE HOUSE OF MRS. J. J. HAYES, DEDHAM, MASS.—See page 130.  
MR. JAMES PURDON, ARCHITECT.





DINING-ROOM.



LIVING-ROOM.

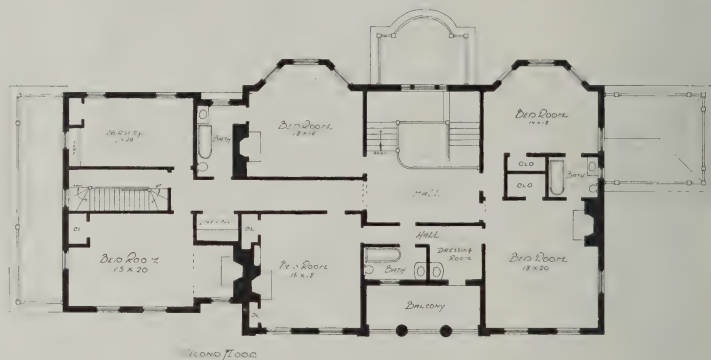
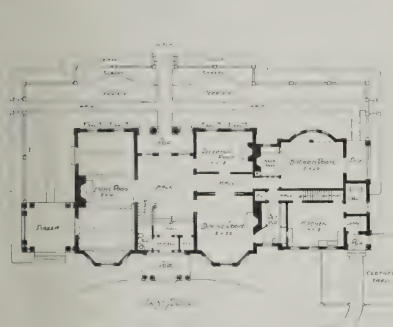
THE HOUSE OF MRS. J. J. HAYES, DEDHAM, MASS.—See page 130.

MR. JAMES PURDON, ARCHITECT.





THE JAMAICA POND FRONT.



SECOND FLOOR.



THE REAR FRONT.

THE HOUSE OF NELSON CURTIS, ESQ., JAMAICA PLAIN, MASS.—See page 128.  
MESSRS. CHAPMAN & FRAZER, ARCHITECTS.





THE HALL.



THE LIVING-ROOM.

THE HOUSE OF NELSON CURTIS, ESQ., JAMAICA PLAIN, MASS.—See page 128.

MESSRS. CHAPMAN, & FRASER, ARCHITECTS.



# THE HOUSE OF NELSON CURTIS, ESQ., JAMAICA PLAIN, MASS.

THE large Colonial house of the Georgian period illustrated on pages 126, 127, 129, and below, has been completed for Nelson Curtis, Esq., at Jamaica Plain, Mass. It is placed on the Parkway and faces Jamaica Pond, while its own particular site is well covered with stately elm trees, which add dignity to the estate. The house is built of red brick, with white marble trimmings; it has white shutters on the first story windows and green blinds on the second. The carriage porch and piazzas are well arranged and bear a good relation to the interior plan. The terraces, enclosed with balustrades of wood, having walks laid with red bricks in herring-bone pattern, form quite a feature of the exterior scheme.

The hall, which extends directly through the house, opens through French windows on to the recessed porch and terrace which faces the Parkway. The

height of bookcases. This room has a beamed ceiling, and an open fireplace with facings and hearth of Tiffany bricks, and a paneled mantel and over-mantel.

The billiard-room is trimmed with cypress and is finished with Flemish treatment. The ingle nook is an attractive feature, and is fitted with a paneled seat, over which are a cluster of windows, an open fireplace with Roman brick facings, a floor paved with English red tile, and walls paneled from floor to ceiling.

The dining-room is trimmed with mahogany and has a paneled wainscoting, above which the walls are covered with tapestry, finishing at the ceiling with a wooden cornice. The large open fireplace is built with brick facings and hearth, and a mantel with paneled over-mantel. The butler's pantry is fitted up with butler's bowl, drawers, dressers, etc. The kitchen and its dependencies are fitted with all conveniences.

The entire second floor is finished in white, and it contains five bedrooms, nursery, three bathrooms, and

mental staircase. The drawing-room is trimmed with white wood, and is treated with white enamel paint, and it has a bay window, and an open fireplace with tiled facings and hearth and a mantel of Colonial style. The den is an attractive room and it also has an open fireplace, and is treated similar to the drawing-room. The dining-room is trimmed with white wood, and is treated with a weather stain. It has a paneled wainscoting with a beamed and paneled ceiling. All the ceilings to the rooms, except the dining-room, have coves with stucco finish to the picture molding. The conservatory off the dining-room is an attractive feature. The butler's pantry and kitchen are fitted with all the best modern conveniences.

The second story is trimmed with Georgia pine, and is stained a dark green. This floor contains four bedrooms, with large, well fitted up closets, linen closet and bathroom. The latter is furnished with porcelain fixtures and exposed nickelplated plumbing. The third



THE DINING-ROOM—THE HOUSE OF NELSON CURTIS, ESQ., JAMAICA PLAIN, MASS.

arrangement of the rooms is well shown on the plans. The first floor contains the living and public rooms, while the second story contains the family rooms and baths, grouped so as to avoid the necessity of going into the main hall in order to go from one to the other.

The decorations and color scheme of the interior are harmonious and effective. The hall is treated with white enamel, which harmonizes very nicely with the walls, which are in crimson. There is a paneled wainscoting extending around the room, finished with a mahogany cap. The staircase is broad and handsome in design, with white enamel balustrade and newel, and a mahogany rail. The toilet, lavatory and coat-room are placed beneath it. The reception-room is treated in enamel white, and has a low Colonial wainscoting, above which the walls are covered with yellow silk of a golden hue. The open fireplaces have onyx facings and hearth and a Colonial mantel. The living-room is trimmed with California redwood, and the walls are covered with green silk. Low bookcases are built in, and the paneled wainscoting is carried to the

a dressing-room. The bathrooms have tiled floor and walls, and are furnished with porcelain fixtures and exposed nickelplated plumbing. The third floor contains the servants' quarters and bathroom, besides several guest rooms, trunk rooms, etc.

Messrs. Chapman & Frazer, architects, 8 Exchange Place, Boston, Mass.

## A COTTAGE IN TORONTO, CANADA.

THE house illustrated on page 122 has been built on Delaware Avenue, Toronto, Canada. The underpinning, the first story, and part of the second, are built of hard fired red brick laid in red mortar. The front part of the second story is beamed in the form of half-timber work, the beams being stained green, and the plaster a silver gray color. The remainder of the woodwork is painted white. The windows in all the principal rooms are of plate glass. The roof is covered with blue slate.

The hall is trimmed with oak and has a vestibule with a paneled wainscot at the entrance and an orna-

floor contains a billiard-room and the servants' quarters. A cemented cellar contains a laundry, heating apparatus, fuel rooms, etc. Cost, \$5,500 complete.

Mr. R. J. Edwards, architect, Toronto, Canada.

## THE HOUSE OF ARTHUR A. ADAMS, ESQ., BROOKLINE MASS.

THE attractive house which is illustrated on page 119 has been erected for Arthur A. Adams, Esq., at Brookline, Mass. It is of English character in its design, is well treated, and the chimney forms an important architectural feature. The underpinning is built of rock-faced stone. The superstructure is covered on the exterior with shingles, which are stained a soft brown color, while the trimmings are painted a soft cream white. The roof is also shingled, and is stained a dull green color. The brickwork around the front door and chimney is built of buff brick. The entrance is into a vestibule with paneled walls and ceilings, the whole being of white pine and painted ivory white. There is a leaded-glass window placed in between the



vestibule and the ingle nook. The hall is also trimmed with white pine and is painted similar. It has ceiling beams, and a paneled dado to the height of the doors. The ingle nook has a paneled ceiling and walls, and it is fitted with seat and an open fireplace built of brick with the facings and a hearth of the same. The stairs rise up from two broad steps to a broader platform, from which the remaining stairs rise to the second story. The landing has a bay window thrown out with seat, and it has white painted balusters and a mahogany rail. The living-room is trimmed with white pine, and it is painted a dark bottle green, and this harmonizes very satisfactorily with the wall covering, which is of crimson, and the ceiling beams. The alcove contains a bookcase built in and a paneled seat, and it is lighted by a cluster of leaded-glass windows. The fireplace is built of brick, and it has a mantel of handsome design. Double doors open into the piazza at the side, which is enclosed with glass, and forms a sun-room. The dining room is trimmed

**"REVERIE COVE," THE SUMMER HOME OF MRS. M. C. JONES, BAR HARBOR, MAINE.**

THE summer home of Mrs. M. C. Jones, at Bar Harbor, Me., is located on a high point of ground, sloping to the water's edge. On account of the prominence of the site, as well as its exposure, a special scheme of construction was adopted. The land slopes off rapidly to the rear, and it permitted the placing of the kitchen, servants' hall, laundry and their dependencies in the basement. The house is designed in the Spanish style, and its exterior walls are built of stucco, which is stained a soft yellow color, while the trimmings are painted an apple green. The shingle roof is stained a brilliant red and forms a very happy contrast with the color scheme. Illustrations are shown on pages 120 and 121.

The entrance is into a square vestibule of large dimensions, from which the living hall is reached. Both are painted in dark Flemish oak, and the latter has a paneled wainscoting and a beamed ceiling,

buffet built in on either side of the alcove, and an open fireplace with gold speckled brick facings, and a mantel to correspond with the character of the room.

The second floor is trimmed with white pine, finished naturally. This floor contains six bedrooms, boudoir, two dressing-rooms, and two bathrooms; the latter are finished with white enamel and furnished with porcelain fixtures and exposed nickelplated plumbing. The floors, throughout, are of hard wood. The third floor contains the servants' rooms and bath, trunk room and two guest rooms.

Mr. Fred. L. Savage, architect, Bar Harbor, Maine.

**A HOUSE AT MONTCLAIR, N. J.**

THE house illustrated on page 118 was erected for E. R. North, Esq., at Montclair, N. J. It is designed in the gambrel roof style, and is a combination of fieldstone, clapboards, and shingles. The underpinning, part of the first story, and the columns and terrace at the piazza are built of fieldstone, laid up at random. The



THE TERRACE—THE HOUSE OF NELSON CURTIS, ESQ., JAMAICA PLAIN, MASS.—See page 128.

with oak, and it contains a beamed ceiling and a chair rail. The open fireplace has an ornamental mantel, and at the side of it there is a sideboard built in, with cupboards under the counter enclosed with small wooden doors, and cupboards over the counter enclosed with leaded-glass doors. The butler's closet is fitted up with sink, drawers, cupboards, enclosed with glass, and plenty of good shelving. The rear hall is of unusually large dimensions, and it has an open staircase.

The kitchen is fitted with sink, range, large store pantry and all conveniences. The second floor is handsomely treated with white painted trim, and each room is papered in one color scheme. There are a drawing-room, and a bathroom; the latter is furnished with porcelain fixtures and a bay window. The third floor contains three bedrooms and a trunk room. A central hall contains a laundry, furnace, cold storage room, etc.

Mr. Arthur H. Bowditch, architect, Brookline,

Massive fluted columns form the newel posts to the staircase, and the arched effect produced in the living-hall. The staircase rises from either side of the hall to a broad landing, from which a central run rises to the second story, the under side of which is handsomely paneled. A cluster of latticed windows is placed on the landing, and also below the same. The fireplace is built of old gold Roman brick, with the facings and a hearth of the same, and a massive mantel. The smoking-room to the right of the vestibule is finished in a similar manner, and it has an open fireplace built of Roman brick.

The drawing-room is trimmed with pine and is treated with white paint, and has a low paneled wainscoting of Colonial style, and an open fireplace built of white enameled brick, with the facings and hearth of the same, and mantel with fluted pilasters supporting the shelf.

The dining-room is finished in Flemish oak, and has wainscoting three and one-half feet in height, with paneled seat, with a

remainder of the first story is covered with clapboards, painted white. The second and third stories are covered with shingles, which are stained a reddish brown. The roof is also covered with shingles and is stained a dull shade of moss green. The reception-hall is trimmed with quartered oak, and forms an entrance to the living-room, which is also trimmed with quartered oak.

The living-room has a paneled wainscoting and an open fireplace with tiled facings and hearth, and mantel of oak. The staircase is an attractive feature of the house, and is separated from the living-room by columns which rise to the ceiling, the spaces between the columns being filled in with spindlework. The stairs are reached both from the living-room and the reception-hall. The dining-room is trimmed with oak, and has a paneled wainscoting and a bay window. The kitchen and its dependencies are fitted up with all the best modern fixtures complete.

The second story is trimmed with white pine and is treated with white enamel paint, and contains four



bedrooms and a bathroom, the latter treated with white enamel paint throughout and furnished with porcelain fixtures and exposed nickelplated plumbing. The third floor contains the servant quarters and ample storage. There are a laundry, furnace, and fuel rooms in the cellar.

Mr. E. R. North, architect.

#### THE HOUSE OF MRS. J. J. HAYES, DEDHAM, MASS.

The illustrations on pages 124-125 and below present the residence of Mrs. J. J. Hayes, at Dedham, Mass. The house is designed and planned in a quaint manner in the Colonial style, and, in order to produce a more horizontal effect, the exterior is clapboarded with alternate courses of 7-inch and 2-inch clapboards. These clapboards are painted a soft shade of Colonial gray, and the trimmings are painted white. The roof is low and straight in form, and is covered with shingles.

The interior throughout is trimmed with white

a china cabinet built in, with doors glazed with small lights. The butler's pantry is fitted with dressers, drawers, closets, bowl, etc. The kitchen is furnished with an alcove for range, dresser, sink, closet, store pantry, and an entry large enough to admit ice-box.

The second floor contains four bedrooms with large clothes closets, two bathrooms, besides a large linen closet, and two servants' rooms and bath over the kitchen extension. The bathrooms are furnished with porcelain fixtures and exposed plumbing, all nickel-plated. The cellar contains the heating apparatus, fuel rooms, laundry, etc.

Mr. James Purdon, architect, 8 Beacon Street, Boston, Mass.

#### THE HOUSE OF ALBERT M. HUNT, ESQ., AUBURNDALE, MASS.

The illustrations shown on page 123 present a house erected for Albert M. Hunt, Esq., at Auburndale, Mass. It is designed in a picturesque manner. The under-

The second floor is trimmed with pine and is treated naturally with oil and varnish. This floor contains four bedrooms, sewing-room, eight closets, linen closet, bathroom, and one servant's room. The bathroom is furnished with porcelain fixtures and exposed nickel-plated plumbing. The third floor contains one room, ample storage space, and an open attic. The cellar, cemented, contains laundry, furnace, fuel rooms, etc.

Mr. Thomas W. James, architect, 27 School Street, Boston, Mass.

#### SANITARY HOUSEKEEPING.

Few women there are, says Harper's Bazar, who do not know how salient an item is the scrupulous care of the refrigerator or ice-chest, yet how many of us take the trouble to see that this important work is rightly accomplished? It is monotonous reading to be told that this receptacle should be cleaned thoroughly twice a week and wiped out daily. The



INGLE-NOOK IN THE DINING-ROOM, HOUSE OF MRS. J. J. HAYES, DEDHAM, MASS.

wood, painted white, with mahogany doors. The house is planned with a central hall, and contains an ornamental staircase with white painted balusters and a mahogany rail. The wall has a plaster dado painted white, and finished with a mahogany cap; the wall space above is covered with tapestry and is finished at the top with a wooden cornice.

The library to the left of the entrance is furnished with a similar dado, and the walls above are covered with a wall paper of greenish hue. It has an open fireplace built of brick, with the facings and a hearth of brick, and a mantel of Colonial style. The den is painted white, and has a brick fireplace.

The dining-room has a low Colonial dado same as the hall, and the wall space above is covered with paper of blue colorings. The attractive features of the room is the flower bay window, which is laid with a tiled shelf, and the inglenook, which is paneled to the height of the mantel, containing a brick fireplace with the facings and a hearth of the same and a mantel of Colonial style. There are also paneled seats at either side of the fireplace. At one side of the inglenook is

pinning is constructed of field stone laid up at random. The chimney is similarly constructed, and is an architectural feature in itself. The exterior is covered with shingles, and is stained green. The roof is covered with shingles and is left to finish naturally.

The plan shows an entrance hall which is separated from the stair hall and also from the reception-room by Colonial columns supporting archways. These three apartments are treated with white enamel. The stair hall contains an ornamental staircase, with mahogany rail, and an open fireplace furnished with a red tiled hearth, and a mantel of Colonial style. There is a paneled seat at the side of the mantel.

The living-room is trimmed and treated same as the hall, and has a bay window with seat, and an open fireplace fitted with white tiled facings and hearth, and a mantel of Colonial style. The dining-room is trimmed with oak, and has an open fireplace with green tile facings and hearth, and a mantel of oak. The kitchen and its dependencies are fitted with all the best modern conveniences, and it is trimmed with white pine finished natural.

waste-pipe leading from the ice-chamber too often proves a medium for the "solid food" culture of germs, as the constant dripping of melted ice will, unless unusual care is bestowed upon it, form a gelatinous coat on which the germs of fermentation thrive. A strong alkali, such as potash—commercially known as lye—or chloride of lime, should be poured down this pipe at least twice a week.

Sinks, washstands and toilets should likewise receive careful attention and disinfectants should be generously used. The kitchen should be the focal-point of our aggression, for herein lie many of the unseen possibilities to make or mar the health and contentment of a household. In these days of slipshod housemaids, many of whom, unfortunately, we are compelled to choose from the rank and file of the uneducated and untrained, who have only the crudest notions relative to personal hygiene, the only alternative is to take things in our own hands and make training-schools of our own kitchens, not only in justice to the health of our immediate families, but for the well-being of future generations.





## The Household

### IS LESS FURNITURE BEING USED?

THE announcement is being made through the public press that much less furniture is being used in household rooms than has recently been the fashion. It may be taken for granted that the furniture makers are not responsible for this statement. The object of furniture makers is to sell furniture, and it is quite obvious that the more sold, the better it will be for them. Liberal purchases and liberal quantities of furniture is the motto of the furniture man, and he certainly would not take the trouble to put forth the idea that space, empty space, is the chief thing for the modern room, and as little furniture as can be got along with.

And it may be questioned if the owners of sumptuous homes are in sympathy, in practical sympathy, with such a notion. The houses of the great, rich, splendid, sumptuous houses, show no falling off in the number of articles set around the rooms. THE BUILDING MONTHLY has published many interiors which show quite elaborately furnished rooms, and with no falling off in the quantity of articles.

The contention, however, is not made that much furniture is a good thing. Quite the contrary is true. We unquestionably have too much of it. Our rooms too long have been greatly overcrowded with a host of articles which, decorative in intent, have been simply impediments to motion and snares to the awkward. Of course it will be contended that rooms are not race-courses, and that awkward persons have no business in places where they can not move about with ease and comfort. The first of these statements is most positively true; as to the second, it can only be submitted that awkwardness is often an accompaniment of gentility, and the most careful person is liable to knock a delicate vase off a delicate table stood in some unsuspected spot. No room is ever helped by overcrowding, and many a good one is spoiled by too much furniture. Temptations to overcrowd are difficult to resist, because each piece may be beautiful in itself, and it will not always be realized that the accumulation of beautiful pieces may produce a result that is decidedly unhappy. If there is a movement for less furniture than has heretofore been the custom, it is a good thing and deserves hearty encouragement.

### THREE GOOD EMPIRE ROOMS.

A DAILY paper describes three Empire rooms of quite unusual beauty. The house was less than twenty feet broad, and there were three rooms on the entrance floor, opening one into another, making an effect not unlike an elongated Pullman car. The owner, who wanted Empire furniture, was fortunate enough to fall into the hands of a skillful decorator, and her rooms were delightful and artistically empty. One room held two graceful sofas with genuine omolu ornaments and covers in yellow silk, of the same color as the wall draperies and the curtains. Two chairs and two cabinets with doors, sparingly ornamented with real omolu, completed the furniture of this room.

The middle room leading into the dining room contained a high desk, a heavy round table and four chairs. This room was done also in yellow to increase the sense of space and not have the vision disturbed by too many tints in such a comparatively small area. The dining room had a heavy mahogany sofa and twelve chairs. All the pieces were genuine First Empire and with two consoles gave the room just the formal stiffness which was the essential feature of this period.

These rooms were sparsely furnished for New York ten years ago, but the woman who owned that house was fortunate enough to have a good decorator and to put her confidence in him. As a result she never grew tired of Empire furniture. When it went out of style, her rooms were just as beautiful as ever, because they had been done with a sense of what real taste and the periods of time require.

### BEDROOM FURNISHINGS.

BEDROOMS are furnished very simply nowadays, says an exchange. Carpets have been banished in many houses, and nothing is allowed in the way of hangings that may not easily be washed. The bedspread and bureau linens may be as elaborate as one chooses. Very handsome spreads are made of heavy linen sheets inset with heavy lace bands. Pillows are smaller, and are usually kept by day in a box slipped under the bed. A round bolster with a cover to match the spread is substituted. Marseilles spreads are not in vogue at present, dimity and linen having taken their place to a large extent.

## THE HOUSE OF MRS. RICHARD GAMBRILL. NEWPORT, R. I.

(Continued from page 115.)

the entrance front—are much alike, with broad flights of steps, balustrades finished at the ends with large vases and ornamented with bay trees of very rare symmetry. All these parts add greatly to the beauty of the building and very delightfully adjust its relationship to the grounds. On the right of the entrance front is the stable, designed in harmony with the house, and close beside it is a service yard, which stands at a lower level than the spacious forecourt and other grounds. On the other side of the house is a great green garden, with paths of grass marked off with low borders of flowers, and a vast central fountain, whose jet throws a stream of water high into the air. Stone benches are placed around the fountain, and groups of statuary stand on decorated bases. On the sides of the house the view is closed with a latticed pergola, with piers of small open circles and latticed panels. Sculptured figures stand under the openings, and at one end of each is a great domed summer house, also of lattice design.

With such a splendid exterior a sumptuous interior follows as a matter of course. The entrance hall is designed in a monumental manner, with walls of Caen stone and columns of polished marble. The door openings are flat, with round arched niches between them, and the cornice is richly detailed. To the right the stairs to the upper story ascend in a graceful curve. Behind them are the pantries and service rooms, which connect with other rooms and with the kitchen in the basement. To the left is the library, a daintily designed room in very light green. Three large rooms on the garden front complete the apartments on this floor. In the center is the small salon, exquisitely paneled with ornament in low relief. On the left is the large salon or living-room, paneled throughout with Italian walnut with ornaments in subdued gold. The dining-room, on the right, is also paneled and treated with pilasters. The furniture throughout is very rich and beautiful.

The loggias form open rooms for the summer, but are enclosed within glass for the cold weather. Their lower walls are lined with stone. Above is a frieze, painted by James Wall Finn, of birds and vases of flowers under trellised arbors. A similar design, with many variations, is painted on the ceilings. A light bluish green is the dominant color in these very remarkable and highly individual decorations. The loggias are handsomely furnished and form delightful rooms, available for use at all seasons of the year.

NOTE.—The illustrations of Mrs. Richard Gambrell's house have been taken from "American Estates and Gardens." Munn & Co., publishers.

### ART IN THE HOUSE.

THE home, says a recent lecturer, is the center for the development of any people. The family life reaches its greatest efficacy only in its best environment, and the best environment is that which is most healthful and most enjoyable. Art is that element in the home which makes possible the enjoyment of beauty, wherever it may occur. It should be found not only in pictures, literature, music, sculpture and buildings, but in the simplest kitchen utensils, in the appointments of the dining-room, the selection and arrangement of carpets, draperies, furnishings, ornaments for the drawing-room—in short, it is the spirit that moves the emotions, touches the esthetic sense and makes enjoyment possible.

### OUTSIDE PAINTS.

A WRITER in an exchange, discussing the best paint for the exterior of dwelling houses, suggests that if the house has not been painted before a first coat or priming of pure white lead be used, either plain or tinted, to suit the taste, and with pure raw linseed oil for a thinner, and not over 5 per cent. turpentine drier added. This is to be rubbed well into the wood and allowed to stand at least three days before the second coat is applied. For new work it is best to have three coats, and for the third and last coat a mixture of four parts white lead, by weight, to one part of zinc white, colored to suit the fancy, and thinned again with pure raw linseed oil and not over 5 per cent. Japan drier. Should it be decided to use prepared paint, let the first or priming paint be pure lead and have the prepared paint used as second and third coats, following directions on label. If the house has been painted before, see that the surface is thoroughly dusted and every loose particle of old paint removed; touch up where needed and have the surface repainted with either two coats of pure lead tinted with color, or have two coats of prepared paint applied.

ARTISANS' dwellings to the value of about \$800,000 are being erected by the municipality of Milan, Italy.



## The Garden

### THE HYDRANGEA.

THERE are over thirty species of hydrangeas known, says Richard Rothe in "Park and Cemetery." The latest introduction is *Hydrangea Hortensis rosea*, or dwarf, bushy habit and by nature bright pink color, readily changing to blue. Its serrated leaves are dark olive-green and are borne on red stems. The plant flowers very freely and, from its appearance at last spring's flower shows, where its introducers had a number on exhibition, bids fair to become a very popular pot plant for the Easter trade. Growers in England, Germany and France strongly commend its good forcing qualities and graceful habit of growth. The climbing variety, *Hydrangea scandens*, a hardy species from Japan, less known perhaps, is useful for covering walls or bare tree trunks. Its white cymes, appearing as early as June, are less conspicuous, but the dark-green, densely set foliage forms a very attractive picture. The old variety, *Hydrangea Hortensis* and *Hydrangea Otakusa*, however, remain unexcelled for beautifying home surroundings, especially for decorating piazza, stairways and lawn.

### THE OLD ENGLISH GARDEN AT ST. LOUIS.

AMONG the many garden displays at the Louisiana Purchase Exposition, the old English garden, attached to the British pavilion, attracted special attention. It was unique in two respects—first, in regard to its mode of arrangement; and, second, in regard to the class of material used. The sunken garden and fountain on the east of the building were the main features of the grounds. The fountain played between 8 A.M. and 6 P.M., and added greatly to the appearance of the garden. The corner piers of the Lily-tanks were ornamented with beautifully designed terra-cotta vases filled with plants of *Phoenix reclinata*, *Ferns*, *Vinca variegata*, *Asparagus Sprengeri*, etc. In the water was a collection of hardy and tender *Nymphaeas* in flower, *Water Hyacinths*, *Water Poppies*, and other aquatics.

The hedge forming the enclosed spaces in the panels on each side of the fountain was of California Privet (*Ligustrum ovalifolium*), and where this came thicket it was covered with Japanese varieties of *Ipomoea*, which made a beautiful display during the early part of the day. At the corners of the edge were standard plants of *Prunus Pissardi*, the dark purple foliage of which is very conspicuous over the green Privet.

The flower beds were all rectangular in shape, and surrounded by an edging of *Kochia scoparia*, which makes a beautiful border, and very well fills the place of Box edging. Some 10,000 plants of this were used, the greater number having been raised from seed.

In keeping with the character of the garden, old-fashioned annual and herbaceous flowers were planted wherever practicable, and all carpet and modern bedding was avoided. In the sunken garden were large beds of *Zinnias*, *Balsams*, *Phlox Drummondii*, *Antirrhinums*, etc. An exhibit of *Gaillardias* and *Montbretias* made a good display.

An exhibit of some 4,000 tuberous-rooting *Begonias* were later used to take the place of other exhibits which were past blooming. The display commenced in March with *Crocuses*, followed by *Hyacinths*, *Narcissus*, *Tulips*, etc., which in their turn were succeeded by early-sown *Stocks*, *Sweet Alyssum*, *Silene*, *English* and *Spanish Iris*, *Anemones*, etc., after which came the main crop of flowers.

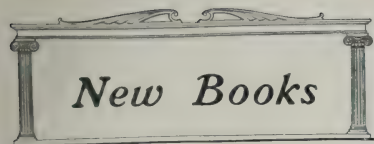
The old-fashioned bowling-green, with its sloping sides and circular ends, excited the curiosity of the visitors. Masses of flowering shrubs, among which were planted *Cannas*, *Salvia splendens*, etc., formed a background to the green. A row of *Carolina Poplars* was on each side of the garden, whilst a low hedge of Privet formed the boundary. In a border on each side of the sunken garden an exhibit of herbaceous plants was arranged.

In the border immediately in front of the pavilion terrace, *Petunias* made a brilliant display. They were greatly admired for the size of the flowers. Scattered about in the garden were sixty fine specimens of topiary work. Some good collections of *Dahlias* were also shown in different parts of the garden.

### THE TREATMENT OF BOUNDARY LINES.

A GARDEN, says an exchange, should be so honestly laid as to appear strong and permanently attractive. It should also have its boundary lines so arranged and planted as to effectually destroy the actual limitations of the estate. The height and character of boundary and party fences detract from many fine houses.





### AMERICAN ESTATES AND GARDENS.

AMERICAN ESTATES AND GARDENS. By BARR FERREE. New York: Munn & Co. 1904. Pp. 340. Illustrations, 275. Price, \$10.00 net.

The building of large houses is an art which not only greatly interests and encourages the architect—because it gives him large opportunities and ample fees—but it is a matter of very general interest. The public curiosity, in fact, as to the rich man and his life, is never satiated. His doings and his houses, his yachts and his estates, are matters of the widest possible concern.

But the rich man's house in America has long since passed beyond the point where it is simply food for the curious. In the best sense of the word it is now a work of architecture, a structure whose cost is large simply because it is built in a fine way of fine materials, and because handsome grounds, beautifully arranged, are a natural and fit accompaniment to it. This is a distinct architectural achievement, a genuine architectural evolution; for the best work of our present-day architects has real value; it often has distinction, and it is seldom without merit.

A book dealing with large houses in a large way; a book covering as well as so extended a field could be covered within the necessarily restricted limits of a single volume; a book so abundantly illustrated that each separate house might well be said to be presented in its entirety—such a book must have a very hearty welcome, and present a review of the best in American domestic architecture in a thoroughly satisfactory manner.

All of this Mr. Ferree's book does in a very comprehensive way. Its subjects range from Newport to California, from Massachusetts to Pennsylvania, and they are, without exception, houses of the first rank in art, in cost and in extent, houses rightly deserving the description sumptuous, and representing, in a very true sense of the word, the best work of contemporary architects in splendid dwellings. Treating as it does of the great American country house in its entirety, illustrating, in a very complete manner, the inside as well as the outside of these palatial mansions, picturing their gardens, likewise, and many details of large estates, it must meet with a hearty welcome, and win immediate recognition as the standard work on the subject.

Mechanically the book leaves absolutely nothing to be desired. Its pages are of generous size, 10 1/2 by 13 1/3 inches—a page quite ample enough for illustrations of good dimensions and valuable detail. Its pictures are very numerous, numbering a total of 275, and as many of these are full paged, it is apparent that this feature of the book has been planned and developed on a princely scale. The illustrations, moreover, have been printed in a truly superb manner, and as photographic reproductions have extraordinary merit. They are clear and distinct, with every detail carefully brought out, forming, in fact, one of the most remarkable series of pictures that have come from any American printer. It is beautifully bound, with a cover of quite unusual beauty in green, black and gold.

While the illustrations constitute, in many senses, the most interesting part of the book, Mr. Ferree's descriptive text has great value in giving much information concerning these great houses. It is written in a thoroughly sympathetic manner, and adds largely to the value of the book. This beautiful volume on the great houses and gardens of America is entirely worthy of its subject, and is a valuable and beautiful record of some of the most important achievements in the building art in America.

### THE APPRECIATION OF SCULPTURE.

THE APPRECIATION OF SCULPTURE: A HANDBOOK. By Russell Sturgis. New York: The Baker & Taylor Co., 1904. Pp. 226. Price, \$1.50 net.

A year ago Dr. Sturgis published a notable book entitled "How to Judge Architecture," which was intended to help the layman in the appreciation of architecture. He has now supplemented this by the present volume on sculpture, which has an identical purpose, namely, to explain and make clear the real nature of excellence in sculpture.

It is a thoroughly admirable book, written with a fine enthusiasm for the art, yet so admirably restrained as to be wholly without indication of personal bias for the art of any one period or of any one sculptor. It presents indeed the claim of sculpture for consideration in a thoroughly delightful way, and the reader

who opens the book is not likely to lay it down until it is finished. Like his previous essay on architecture, this volume has, as a background, the history of sculpture, but it is in no sense a history. Beginning with Greek sculpture, "which is the most generally recognized as without fault, humanly speaking, and even without serious shortcoming," the author follows the historical development of sculpture to our own day, interrupting his narrative only for a brief look backward into Egyptian sculpture. This method has the very distinct advantage of giving the reader an excellent summary of the whole history of the subject, without the formality that would attend the setting down of historic facts, and at the same time enables the author to write critically but without the display of exacting learning which the historical method would call for.

"Sculpture," says Dr. Sturgis, "is always the most sensitive of the arts. It is the most easily lost and the most difficult to recover." "The sculptor," he continues, "must, first of all, know how to produce, in soft material which he molds, or in hard material which he cuts, whatever forms he may perceive even dimly in his mind. Therefore it is that the close daily and hourly study of the sculptor will be generally directed toward that form of art which promises the most to him as its pupil." Again, he says, "The question for the sculptor himself is not how he is to express a certain epoch, a certain race of men, a certain incident, a certain sentiment—not so much as these or any one of them, as how to produce a beautiful work of art." "The object of a great and important work of sculpture is and must be," he adds, "very largely the presentation of pure form in a new and charming aspect. What has the sculptor to say so important as this: 'Come and see this new combination of masses beautifully composed, made up of details beautifully modelled?' " "The hope of any fine art," he says in conclusion, "is in the singleness of purpose of its workmen. What we require of them is, then, an undisturbed and constant devotion to it. And, that this may be possible to the artist, the public must learn that only artistic work is to be had from an artist, and must really stop asking him for moral teaching, and archeological information and general exhortation. . . . Even more than sentiment, even more than action, pure sculpture is the one thing needful."

Admirable words, these, and the book is filled with such much needed comment. Decorative sculpture is almost completely ignored, the book concerning itself simply with sculpture for itself, sculpture for sculpture's sake. It is a notable contribution to the somewhat scant literature on the subject, and will doubtless have the very hearty welcome and wide appreciation it deserves.

### ITALIAN GARDENS AND VILLAS.

ITALIAN VILLAS AND THEIR GARDENS. By Edith Wharton. New York: The Century Company. 1904. Pp. 275. Price \$6.00 net.

A sumptuously illustrated book on Italian gardens can not fail to win large popularity. Mrs. Wharton's book is by no means her first venture in the realm of architectural writing, her acquaintance with the technique of her subject being more than sufficient to enable her to write intelligently on the matters discussed in this book. It is a rapid review of the more characteristic villas of Florence, Siena, Rome, Genoa, Lombardy, and Venetia, and naturally describes many of the more important Italian villas and their surrounding gardens. It is a garden book, indeed, rather than one concerned with buildings, for it is of gardens she chiefly writes, and it is the gardens which offer most of the subjects for the illustrations.

Of these the drawings in color by Maxfield Parrish are not only lovely, but quite unusual. Some are reproduced in tint, but the larger number are in color, reproduced in an exquisitely delicate manner, yet with great brilliancy of touch. The photographs are hardly expressive and scarcely add to the value of the book; and were it not for Mr. Parrish's beautiful pictures it might seem inadequately illustrated. And, notwithstanding the color plates, it may be questioned if a better idea of Italian gardens might not be had from a group of photographs of a cost no greater than the price of this volume. But it is pleasant to have these beautiful places pictured as they are here, and the mechanical make-up of the book leaves absolutely nothing to be desired.

Mrs. Wharton's volume is so largely one of brief descriptions that, valuable as it is to have such notes, it can hardly serve to directly stimulate an interest in the application of Italian gardens to American conditions. A chapter on this aspect of the subject would have added greatly to the value and interest of the book. She begins by pointing out that while it is an exaggeration to say that there are no flowers in Italian gardens, yet to enjoy and appreciate the Italian garden craft one must always bear in mind that it is independent of floriculture. This, she adds, is no doubt

partly explained by the difficulty of cultivating any but spring flowers in so hot and dry a climate. She shrewdly points out that the garden must be studied in relation to the house, and both in relation to the landscape, and reminds us that the recognition of the fact that the enclosing landscape was naturally included in the garden was the first step in the development of the great garden-art of the Renaissance. The next step was the architect's discovery of the means by which nature and art might be fused in his picture. Three problems were thus produced—the garden must be adapted to the architectural lines of the house it adjoined; it must be adapted to the requirements of the inmates of the house, in the sense of providing shady walks, sunny bowling greens, parterres and orchards, all conveniently accessible; and, finally, it must be adapted to the landscape.

This is a very clear and concise statement of the real problem that underlies all landscape gardening, and as Mrs. Wharton very pertinently adds, the finest solutions were given in the Italian country house from the beginning of the sixteenth to the end of the eighteenth century. Just what these solutions were, how they varied in different parts of Italy, how changes were made in successive years, and what the results are to-day, her book is intended to show. It is a topic that is well calculated to excite the most boundless enthusiasm, and of this Mrs. Wharton has little to spare. But her book is an excellent introduction to a most interesting subject, and must greatly widen the interest in the great gardens of Italy.

### PRINCIPLES OF HYGIENE.

THE PRINCIPLES OF HYGIENE: A PRACTICAL MANUAL FOR STUDENTS, PHYSICIANS, AND HEALTH OFFICERS. By D. H. BERGEY. Illustrated. Second edition, thoroughly revised and enlarged. Philadelphia, New York, and London: W. B. Saunders & Co., 1904. Price, \$3.00 net.

Dr. Bergey's book has undergone a critical revision for this new second edition, and in its present form it now represents the practical advances made in the science of hygiene up to date. Intended to meet the needs of students of medicine in the acquirement of a knowledge of those principles upon which modern hygienic practices are based, and to aid physicians and health officers in familiarizing themselves with the advances made in hygiene and sanitation in recent years, it has a definite value for every one who would keep abreast of the advances of sanitary science. The volume is based on the most recent discoveries, and represents the practical advances made in the science of hygiene. The rapid strides made in our knowledge of the entire subject has rendered such a book, reflecting the more recent discoveries, a real necessity.

Dr. Bergey presents a very complete summary of his subject. Chapters on air, ventilation, heating water, sewage and garbage disposal are followed by others on personal hygiene, including food and dieting, exercise and clothing, school hygiene, military hygiene, naval hygiene. Other topics include the soil, habitations, vital causes of disease, disinfection, quarantine and miscellaneous topics. Illustrations are used to supplement the text when needed. It is an excellent summary of the present knowledge of hygiene.

### THE ARCHITECTS' DIRECTORY.

THE ARCHITECTS' DIRECTORY AND SPECIFICATION INDEX FOR 1904-1905. Sixth Edition. New York: William J. Comstock. 1904. Pp. 160. Price \$2.00 net.

Mr. William J. Comstock presents the sixth annual edition of the "Architects' Directory and Specification Index for 1904-1905." This book embraces a complete list of the architects in the United States and Canada. The names are classified by States and towns, indicating those who are members of the various architectural societies in the United States. Considerable space is devoted to the details concerning the architectural societies, architectural schools, and architectural publications. The Specification Index of Manufacturers of and Dealers in Building Materials is carefully compiled, and forms a unique list. The edition for this year has been revised, corrected, and supplemented by the addition of a list of Landscape Architects, Naval Architects, New Schedule of Charges, and the American Institute of Architects.

### A BOOK ON LETTERING.

THE THEORY AND PRACTICE OF LETTERING. By Christopher E. Sherman, C.E. Columbus, Ohio: Midland Publishing Co. 1904. 8vo, 49 pp.

That this work has been found of great practical value by engineers and draftsmen generally is indicated by the fact that it has reached its sixth edition. It was originally written as a college thesis, but has since been rewritten and new sample drawings of letters gilded. It treats comprehensively of all kinds of lettering likely to be met with by students of engineering, for whose use and instruction it is primarily intended.





## Paint

### PAINTING ZINC ROOFS.

WHERE zinc is exposed to chemical action, says the Metal Worker, it can be painted, but, before any painting is done, the zinc must have a rough surface, such as is caused by the oxide or made by mechanical means. A good time to paint zinc—probably the best time—is when the roof has a thorough coating of oxide. The paint then takes a good hold and will remain for some time. Zinc can be painted at once if it is desired, but, as before stated, it must be on a rough surface. The rough surface can be gotten by either sandpapering the roof or scrubbing it with sand. The latter method is preferable, because it is the easiest. This will cause a roughened surface, to which paint will readily adhere. It is better, however, to wait until the roof has its own coating of oxide. The paint will crack and peel off if the zinc has not this rough surface. Silicate of zinc is the best mineral paint that can be used for this purpose.

### CYPRESS FINISH.

It has been remarked that cypress is not a substitute for white pine, says an exchange. After making all due allowance for the high qualities for which white pine is noted, including prices, it remains that as a finishing material its claims are largely comprised in the ease with which it is worked. It is not at all adapted to purposes of natural finish, and if painted the principal thing to commend it for that purpose over other much cheaper woods is in the working of it. And even in this respect cypress suffers little, if anything, by comparison. White pine retains the favor of a certain class of the community for much the same reason that young men pursue the political bias of their sires. There is about as much serious thought and no more analytical consideration bestowed upon the merits of the matter in the one case than in the other.

While white pine interior finish is best painted, it is a positive sin to hide the natural beauties of cypress. Cypress requires no disguise and is improved by none—neither paints nor stains—and for the same reason that the lily needs no adornment. "Beauty unadorned is adorned the most." It is easy to run a jack plane over a white pine board, but nature has done for cypress what no other wood can boast—invested it with every honest virtue essential to easy working, general utility, durability and ornament. There is no finishing wood of equally moderate cost that can approach cypress as an embodiment of so many and equal native virtues. The whole world has an opportunity of verifying these facts for itself at the World's Fair in St. Louis.

### THE SMELL OF PAINT.

THE smell of paint is sickening to most persons, and to many the painting and decorating of the house is a serious ordeal to be faced. Headache is a common experience. Possibly the oil with which the painter mixes his pigments is sufficient to cause nausea, although there seems to be little doubt that minute quantities of lead are inhaled also. Persons have been known to suffer from a severe attack of colic after sitting in a room for a few hours a day in which there were canvases covered with white lead and a drying oil. Artists, again, have been attacked with paralysis owing to the action of the oil paint, even although the colors were ground and the brushes cleaned by an assistant. The quantity of lead so inhaled must be very small, says the Lancet, but it should be borne in mind that some people are extremely susceptible to the action of the poison. Such persons should make a strenuous endeavor to leave the house during its painting and decoration, while those who are compelled to remain should take all reasonable precautions, and live in the fresh air as much as possible. In the sleeping room a very careful precaution is to leave the washing basin full of clean water, or, better still, milk, during the night. In the morning a greasy film will be found on the surface of the water, and it is reasonable to suppose that some of the oil has thus been attracted from the air. Milk is a well known absorbent of odors and appears to act more effectively than water for this purpose, for after exposure in a freshly painted house the milk will be found to smell quite distinctly of paint. Milk thus tainted should, of course, be thrown away. Lastly, it may be pointed out that there are some excellent permanent pigments to be had now which are quite free from lead, and in a great number of cases these paints might be substituted with decided advantage to the health of those persons who show a marked idiosyncrasy towards lead compounds.



## Stable Lore

### SOME PRACTICAL HINTS ON STABLES.

The following notes are taken from a series of practical papers on the stable printed in the New York Evening Post:

Hayricks are obsolete, the hay being fed from the floor these days. Mangers and troughs should be interchangeable, to admit taking out, scrubbing, and sunning. There should be abundance of water, not standing to be fouled, but fed from buckets (used for no other purpose), and especially should horses be watered the last thing at night. For working horses, use the "clock" feeding system instead of feeding a horse and then jumping him into the shafts before his mouth is empty. Hay should not be kept over the stable when there is facility for keeping it elsewhere, as it accumulates odor like tea or butter. Neither should men's sleeping quarters be above a stable where it can be avoided; a horse does not thrive when sleeping under the sounding board of a cheap Harlem flat.

Stall division should not go to the floor, but an inch or so should give base ventilation, sending odor upward, and keeping the feet and legs cool. The partitions can otherwise be built solid, and should not be too high to permit the horses to see each other. A stalled horse gets very lonely staring hours at a blank wall, which is enough to drive a strong man to drink or suicide. No wonder the animal makes close friends with a cat, a goat, or whatever living thing he can attract for companionship. In other cases the English "bail" separation is good—two planks dovetailed, hung down from rafters, by ropes or chains at head or foot, ending a foot and a half from the ground, the upper edge being not less than four feet and a half. These separate horses effectually, and, what is more, are apt to cure stall kickers.

No stable has any business to smell unduly strong. If it does, it is either badly constructed or badly kept, generally the latter. An automobile house should smell worse than a horse stable. The trouble is that thousands go for building and equipment, and only tens for wages, although it must be admitted that with the bulk of help to-day, stable and otherwise, it seems a case of the help getting all he can, and doing as little as he can; the old honored principle of taking a pride in one's work seems dead and past. Still, a good man can make a poor stable more healthful and more effective than a poor man can keep a perfectly equipped stable, and one is ever reaching for the higher attribute. Nevertheless, if the horse is thin, lame, or generally amiss, look first into stable surroundings, then into the help, then into the food, not forgetting the realm of perquisites! That, however, is another story. Food should be varied. Not oats and hay, year in, year out, but scores of changes which common sense or experience suggests. It is to be regretted that so many horse owners and stablemen get into a rut. They have been accustomed to do things this or that way for so long that a change never occurs to them, and, what is worse still, when any idea is brought to their notice they take it as a direct insult, possibly as reflecting upon the lack of thought which they acknowledge, but none the less resent.

Just at present there seems to be a tremendous leaning to English ideas, and while many of these are good, the result of long years of practical experience around horses of all degrees, it must be remembered, when adapting these items, that there is a tremendous difference in climatic surroundings.

### PRESIDENT ELIOT ON CITY PARKS.

ONE indispensable condition for the adequate use of public reservations, points out President Charles W. Eliot, in a paper printed in the Christian Register, is security against violence, and fear of violence, and even against annoyances, or the sight of rude or disorderly conduct. All public reservations, whether large or small, need to be well policed, so that women and children can feel perfectly safe in them. This is, of course, an expensive matter; but neither city playgrounds nor country parks will be adequately used by the persons who need them unless they are intelligently and adequately policed. A public beach, grove or forest will soon get a bad reputation if it is not vigilantly watched. Every city square or garden should be brightly lighted; first, because light is the best policeman, as Emerson said, just as publicity is the best safeguard against financial and industrial wrongs; and, secondly, because every such open space should be treated as a public park or popular reception room.



## New Building Patents

The following list of New Patents relating to Building and Sanitary Science is prepared expressly for the SCIENTIFIC AMERICAN BUILDING MONTHLY by MUNN & Co., Solicitors of American and Foreign Patents.

A PRINTED COPY of the specification and drawing of any patent in this list, or any patent in print issued since 1863, will be furnished from this office for 10 cents, if exact date or number is furnished. Remit to MUNN & Co., 361 Broadway, New York.

### BRICK, STONE, AND TILE.

ARTIFICIAL STONE. J. W. Lewis, Bokoche, Ind. October 4	771,479
BUILDING BRICK OR BLOCK. T. W. Worrell, New York, N. Y. October 4	771,520
BUILDING BLOCK. T. Podmore, Wilkesbarre, Pa. October 18	772,478
BUILDING TILE. C. T. Seested, Kansas City, Mo. October 25	773,230
BUILDING BLOCK. Marion Brothers, Robertsville, Ohio. October 25	773,244
ARTIFICIAL STONE. E. D. Reed, Ann Arbor, Mich. October 25	773,421

### CARPENTRY.

SELF-CLOSING WINDOW. H. C. Smith, New York, N. Y. October 11	772,200
WINDOW. S. Ragona, New York, N. Y. October 18	772,580
SLIDING AND SWINGING SASH WINDOW. E. H. Ullner, Woodcliff, N. J. October 18	772,686
WINDOW CONSTRUCTION. E. H. Lunken, Cincinnati, Ohio. October 25	773,330

### CONSTRUCTION.

SHEET PILING. W. C. Harder, Chicago, Ill. October 4	771,426
METAL CORNER BEAD. F. A. Sawyer, Everett, Mass. October 4	771,577
BRICK-LAYING MACHINE. John Thomson, Chicago, Ill. October 11	772,191
WALL FOR BUILDINGS. J. A. Ferguson, Denver, Col. October 11	771,816
TILED ROOF. W. Ludowici, Munich, Germany. October 18	772,363
FLOOR AND CEILING. A. Probst, Hesseenthal, Germany. October 18	772,372
ARCH CONSTRUCTION. G. L. Junge, Pittsburg, Pa. October 25	773,149
BUILDING CONSTRUCTION. A. Muncarski, New York, N. Y. October 25	773,215
CONCRETE-STEEL CONSTRUCTION. P. Kuhne, New York, N. Y. October 25	773,827
BUILDING CONSTRUCTION. E. May, New York, N. Y. October 25	773,404
WALL, FLOOR, AND CEILING PLATE. W. R. Willett, Watertown, Conn. October 25	773,445
BUILDING BLOCK AND WALL. O. Gilhaar, Milwaukee, Wis. October 25	773,493

### ELEVATORS.

ELEVATOR. H. R. Wellman, New York, N. Y. October 11	772,074
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### FIREPROOFING AND FIRE EXTINGUISHMENT.

FIRE ALARM SYSTEM. W. L. Denio, Rochester, N. Y. October 18	772,944
FIREPROOF ILLUMINATING STRUCTURE. F. L. O. Wadsworth, Allegheny, Pa. October 25	773,174

### HARDWARE.

SASH BALANCE. W. Schuch, West Hoboken, N. J. October 4	771,276
LOCK. W. A. Grant, Brooklyn, N. Y. October 4	771,305
SEPARABLE HINGE. S. F. Meek, New York, N. Y. October 4	771,954
TRANSOM LIFTER. W. T. Adams, Reading, Pa. October 18	772,600
WINDOW SASH FASTENER. J. Brewer, Hazleton, Pa. October 25	772,920
LOCK. A. Grossbeck, Allegheny, Pa. October 25	773,319
TRANSOM LIFTER. H. L. Trunyer, Portsmouth, Pa. October 25	773,352

### HEATING AND VENTILATION.

HEATING APPARATUS. L. G. Horn, Mocksville, N. C. October 4	771,308
VENTILATOR. C. A. Withers, Augusta, Ga. October 4	771,449
HEATING SYSTEM. A. G. Paul, Boston, Mass. October 4	771,744, 771,745
LIGHTING AND HEATING APPLIANCE. H. Darwin, Erdington, England. October 18	772,698
RADIATOR. H. K. Austin, Reading, Mass. October 18	772,858
FITTING FOR STEAM HEATING SYSTEM. C. A. Bail, Washington, D. C. October 18	772,859
COMBINED BLOWER AND FIRE SCREEN. Bloom & Krebs, St. Paul, Minn. October 25	772,918
HOT AIR REGISTER. C. H. Foster, Omaha, Neb. October 25	773,068
HEATING SYSTEM. U. S. Johnson, Milwaukee, Wis. October 25	773,078

### MISCELLANEOUS.

PAINTER'S SCAFFOLD. G. R. Laughlin, Peoria, Ill. October 11	771,878
ELECTRICAL CONDUIT. A. Fellheimer, Chicago, Ill. October 18	772,350

### PLUMBING.

WATER CLOSET. H. H. Kendrick, Fulton, N. Y. October 4	771,254
WATER CLOSET. W. F. Barnes, Rockford, Ill. October 25	773,183
WASHBASIN FIXTURE AND BASIN. C. H. Moore, New York, N. Y. October 25	773,408

### TOOLS.

ADJUSTABLE STAIR SQUARE. H. H. Bellville, Detroit, Mich. October 4	771,225
SHIMMING GAUGE. J. J. Knox, Los Angeles, Cal. October 18	772,521
SHINGLE CUTTER. M. Knapp, Enid, Okla. October 25	773,397



## A MENAGE IN MADRID.

THERE is a good deal said nowadays, remarks a contributor to an English paper, about the "dirtiness of Spaniards." No doubt there are many in the land who justify that reputation—there are in all countries. Take a crowd of the "great unwashed" from, say, London, and not many will live up to any other description.

But to my own experience in sunny Spain. In justice to many kind friends there, who could have given points to a Yorkshire housewife, I should like to mention a few good customs that we in England might well follow with advantage.

I will take the home of my friend Manuela, as it was on the smallest scale.

She and her husband lived in a flat not five minutes' walk from the Puerta del Sol, in Madrid. It was a charming little place, consisting of only eight rooms, for which I believe they paid annually a sum equivalent to about thirty pounds. They kept one servant, Juana, the most attentive, devoted maid I have ever met, and, moreover, the only domestic I have come across in any country who resolutely declined a "tip" and meant it. The floors were tiled throughout with, I think, white marble and black slate, and were regularly washed once a day. The walls were of some sort of very highly polished white cement with colored borders, and were wiped over with a wet cloth every fortnight as each room was cleaned.

The beds—very good woolen ones on spring mattresses—were thoroughly aired each day, and the dusting was never "slipped."

Of course there was no fire place in any of the rooms, which lightened the work considerably.

The kitchen—a tiny place—I admired immensely. The stove, of iron and white tiles, always shone spotlessly, so did the pans and earthenware cooking pots. The two wooden tables were as white as a daily scrubbing with chloride of lime and plenty of "elbow grease" could make them. There were three white porcelain sinks at different levels, with shelves at either end, on which were kept sand, lemon, and soap, all three being plentifully used for scouring and cleansing.

The sinks were kept rigidly to their different purposes. Glass and silver were washed in the highest one, china in the second, and pans, etc., in the lowest one. Over them was the draining shelf, where the pots were put immediately after washing, to be polished later with a clean towel. The delft rack had a clean muslin curtain before it to keep off the flies. I was there seven weeks and never saw a badly-washed article.

In conclusion, I should like to say a word for the Spanish servants. Juana was no such great exception. In my three years' stay in Spain I came across many excellent workers. My friend helped with the beds, dusted her room, and looked after the principal dishes at dinner and supper; some of these, by the by, were both delicious and economical. Apart from these items, Juana, a girl of twenty-two or twenty-three, did the entire work of the house, and could be trusted to do it well. Her wages were ten pounds per annum.

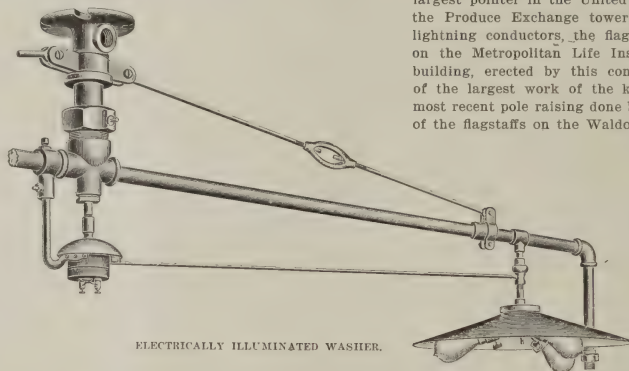
## MR. KIPLING AND THE AUTOMOBILE.

MR. RUDYARD KIPLING has come out into the limelight as the chief prophet of the automobile, says *Floral Life*. It would seem as though this very fascinating machine hardly needed the advocacy of so zealous a defendant, but it is nevertheless a fact that, in many quarters, the automobile no longer has the friends it ought to have. Its opponents are, of course, chiefly those who do not own a machine or have never ridden in one. It is easy to trace the origin of their discontent; but quite a formidable list of ex-automobile owners can even now be made up, and this is increasing every day. Mr. Kipling's hymn of praise may, therefore, have been put forth at the critical moment. It began with his beautiful story, entitled "They," which appeared in *Scribner's Magazine* recently. The automobile is very far from being the central theme of this remarkable story, but it plays a very important part in it. And now he has written a letter which has been printed in an English book on automobilism, in which he boldly defends the automobile as a promoter of temperance! This, surely, is very novel ground on which to plead for the automobile and more of it, but he certainly makes out his case. A horse, he points out, has sufficient intelligence to take his driver home even if that person is in a most befuddled condition and quite unable to hold the reins. The automobile, on the other hand, requires a keen eye, a firm hand and quite undivided attention. What more need be said? Truly, the cause of temperance is making marvelous progress in these enlightened days. Only a month or so ago a very distinguished prelate "dedicated" a public drinking place that temperance may spread forth throughout the land; and now Mr. Kipling shows how a very popular sport, which is apt to be affected by drinking men, actually turns them from strong drink! Obviously the temperance campaign is making weighty progress and taking on quite new aspects.

## Publishers' Department

## OVERHEAD VEHICLE WASHERS.

The accompanying illustration shows an apparatus for which is claimed the distinction of being the only illuminated washer on the market. It represents a "Superior No. 2," for use with electricity, and marks the latest improvement in this article as made by the Vehicle Specialty Company, of Hartford, Connecticut. The other illuminated washer made by the same manufacturer is called the Superior No. 1, and is adapted for use with gas. These safe, simple, and reliable washers are fully protected by patents, and are carefully constructed. The pipes and braces are made of wrought iron; the pipe fittings of malleable iron,



ELECTRICALLY ILLUMINATED WASHER.

the revolving joint of brass. The finish is of red enameled paint, and the connections are intended for three-quarter inch pipe. Note the heavy construction of the head, which is made of cast brass. The revolving joint is specially constructed, and long service has proved its capacity for absolute tightness. The braces are particularly strong, and will keep the machine in line and allow perfect freedom of joint work. The second engraving represented herewith is taken from a photograph of a washer, No. 2, in operation in a darkened stable. Manifestly, the light is easily and fully thrown where needed. The device is secured to the ceiling and makes a complete circling of the vehicle, requiring only about ten feet of hose. The arms extend four and one-half feet from the center. A great advantage lies in the accommodating length of the hose, which can in any way bother the user by getting in his way. It can not be trodden upon nor run over, is easily drained and kept dry and will last for years. An operator can readily and efficiently wash a vehicle in one quarter of the time and much better than by the old methods. The light thrown is so



THE WASHER IN USE.

searching that dirt the most harmful and most difficult to see is cleaned with ordinary care. No grit sticks to the hose to scratch very fine carriages. The device is always ready for use, saves time, hose, annoyance; reduces labor, polishing, and water cost. This company also manufactures the plain overhead vehicle washer, without illumination, called the "Excelsior," and a water cut-off for hose, known as the "Simplicity." The cut-off is a neat, simple, and strong device to be set into the hose near its end, and by a slight turn of the sleeve the water is turned on or off. It saves trouble, prevents a waste of water, and has no pro-

jecting pins or levers to catch or get broken. It is very valuable for masons' use in buildings, for lawn hose, and any place where hose is used and water is liable to be left running. The understanding is that each machine is guaranteed for perfect workmanship and material, and capacity for accurate results with fair usage. The washers are a necessity for all owners of horses, or motor carriages. The address: No. 32 Union Place, Hartford, Connecticut.

## FLAG POLES, WEATHER VANES, RODS, ETC.

THE business of D. Dorendorf, successor to the well known C. H. Lilly, so many years at No. 44 Centre Street, New York, has removed to No. 145 in the same street. Mr. Dorendorf is a manufacturer of copper weather vanes, copper cable lightning conductors, flagpoles, ornamental copper and iron work, ladders of all sorts and sizes, and is known for his skill in general rigging, raising flagpoles, and gilding in all its branches. To illustrate with a few examples the work done in this line, we may mention his manufacturing and placing the vane of the New York Post Office, the largest pointer in the United States; the flagpole on the Produce Exchange tower, and the copper cable lightning conductors, the flagpole, and weather vane on the Metropolitan Life Insurance Company's new building, erected by this constructor, are specimens of the largest work of the kind in the world. The most recent pole raising done by Mr. Dorendorf is that of the flagstaffs on the Waldorf-Astoria, one of which

replaces the old rotten one and is seventy-five feet high; two on the Metropolitan Life Insurance Company's building, each seventy-five feet high, and a sixty-five foot pole on the New York Stock Exchange. Lightning rods were also put on these buildings. With improved capacity

for store and office matters and a spar yard and factory in Brooklyn, this old established house is in better shape than ever to attend promptly to orders that are difficult to execute at smaller plants.

## RUBELAIN AND CERAMIC MOSAIC TILE FLOORINGS.

THE tile and ceramic mosaic used in the side walls, ceilings, and floors of the Trenton Pottery Company's exhibit at the St. Louis Exposition were made by the Trent Tile Company, Trenton, N. J. Although reaching a high grade of efficiency and a very attractive appearance, they are in no sense to be taken or considered as exhibition tile—that is, they were not especially made for exposition purposes, but are the ordinary commercial tile made and shipped daily by the company. So far as the tile work of the exhibit is concerned, it is a fair representation of high-class tile work, and is what should be demanded by all persons contracting for or purchasing tile work. From this standpoint critical examination is invited. All of the tile and ceramic mosaic work shown in the General Display section and bath rooms are examples of the present and usual methods employed in setting or laying tile. An instance of ceramic mosaic tile flooring is shown in the accompanying illustration. The large space covered is the main corridor of one of the finest playhouses in the United States, the Trent Theater, at Trenton. The leading qualities are artistic beauty, great durability, and fireproofness. There is no focal point as a center of an artistic scheme, but the whole possesses a very fascinating example of the perspective effect of rows of patterns having a right regard for principles of proportion, enclosed in ornamental borders. The variations from the type shown are unlimited, and the succession of harmonious forms have opportunities in this material that are adapted to any area of space or style of interior architecture. The mosaics are made in all colors known to the potter's art. The first process in their manufacture is to subject the component materials to a pressure of one hundred tons to the square inch; the next step is to burn them at a temperature of three thousand degrees. The resulting product is hard, dense, and non-absorbent, and can not be scratched by the hardest steel tool or file. The heat at which they are burned makes all the colors everlasting. They can not fade, and time and wear increase and heighten their beauty. "Clay is one of the most beautiful possessions of nature," and the consummate achievement of the tilewright's craft is the result of prolonged and thoughtful labor to make this material the most indestructible of the practical arts, and to reach the utmost purity and simplicity of which color is capable. All this is seen in the forty centuries of its known endurance, in its particular or varied tint management; and the satisfaction given by its lovely surface is increased as its quality of last-





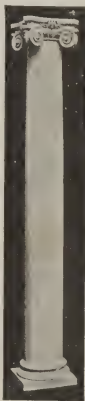
CERAMIC MOSAIC TILE FLOOR.

ingness is realized. To what degree the dash of delicacy of coloring will be attained by the technical potter, no one would be so unwise as to hazard a prediction. Glazes and colors long supposed to be impossible to obtain and produce through the potters' kiln no longer present difficulties. The art potter, being able to produce a large variety of colors, has immeasurably broadened the field for the use of burned and glazed clay, so that he may well say, "All things seem possible." Of the many productions covering a wide range of decoration and utility in tile, the company makes non-crazing della Robbia glazed tile for walls and fireplaces in twenty-five choice colorings. Dull finish fireplace and wall tile, plain or embossed, in fifteen colors as soft and velvety as rose leaves. Enamel tile, plain and embossed, in one hundred and eighteen colors and one hundred and twenty-eight onyx effects. Sanitary wall tile, including bases, caps, trimmers, door trims, plinth blocks, stops, angles, and reducers. Hand-painted tile effects in Royal Worcester, Sèvres and Dresden finish, solid gold or bronze-faced tile, old ivory tints with or without gold Palissy and gold Posterish effects, Delft hand-painted, white or ivory glazed, traced with gold, bright or burnished, or traced with colors. Iridescent lustered tile in rock or plain surface. Decorations in Palissy, Posterish, and Intaglio designs. Della Robbia glazed ceramics for wall or fireplace work. Tile for furniture and counter fronts. Marbleized tile in ten colors. Terra Vitra, all sizes and shapes, in dull or bright glazes. Glazed and vitreous tile for refrigerators, etc. Vitreous aseptic tile. Vitreous ceramic mosaic in all colors, sizes, and shapes. In addition, many specialties. The tile par excellence for the future is L'Art Nouveau, which is made in della Robbia and dull glazes. A great and distinctive feature of the Trent Tile Company's output is "Rublain," now extensively used in the construction of the floors of modern and up-to-date buildings, both public and private. Rubber and porcelain make the combination. The rubber used is of the best quality, and the porcelain is nothing more or less than ceramic mosaics. It is made by combining, by hydraulic pressure and heat, the rubber and ceramic mosaics. In the manufacture, the several colored mosaics are assembled to produce the design required. The rubber is then employed, and by the process of manufacture it is forced into all the interstices between the mosaics, at the same time spreading a sheet of rubber one-eighth of an inch thick on the under side of the design, the result being a ceramic mosaic design in which rubber has supplanted Portland cement. By the process, the mosaics are thoroughly secured and fastened. In adhesive properties the rubber is preeminently qualified to do its part in the problem of perfect flooring. Every design known to the ceramic worker can be produced in "Rublain." It is practically indestructible; in color effects and patterns its field is unlimited. It can be made either a temporary or a permanent floor, and can be laid by a person of ordinary skill without creating dirt, confusion, or inconvenience in sections of a room not worked upon. No odors come from the rubber composition, and a good feature of this floor is the deadened sound the layer of rubber gives and the carpet-like tread experienced in traversing its surface. It can be laid on any foundation, old or new wooden floors, or upon concrete; in fact, it can be put down as readily and easily as oilcloth or linoleum. When additions are required to rublain flooring, they can be furnished, and the new can not be distinguished from the old. Rublain will not show any change by traffic or use, and the various designs, simple and plain, Bagdad, Daghestan or Wilton rug effects are declared to be set to stay indefinitely, and constitute an ideal floor for steamboats, yachts, steamships, vessels, sleeping-cars, railway passenger cars, etc. The firm is in a position to do the designing for flooring without extra cost, the

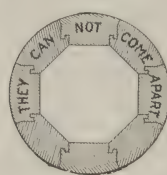
intention being to encourage originality by avoiding servile following its catalogue samples. In a future article we hope to be able to treat the subject of tile for wainscoting and the della Robbia glazes with the fullness and definition their importance calls for. At present we may say that tile as a wainscoting material for wall work is attracting particular attention, standing, as it does, for artistic elegance, rich coloring, beauty, brilliancy and durability; and the della Robbia glazes are also especially suitable for wall work, as they do not craze; and while having a sheen, do not have sufficient gloss to destroy the color effect, no matter in what light they may be placed. The office and works of the Trenton Tile Company are at Trenton, N. J.

#### LOCK-JOINT STAVED AND TURNED COLUMNS.

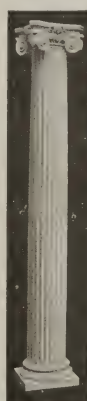
The originators of the "Lock Joint Stave" are the Hartmann Bros. Manufacturing Company, of Mount Vernon, N. Y. It is called the Koll patent lock joint, now so well known to the trade. The first illustration inserted herewith shows a plain column with composite angular Ionic cap, Attic base, and the opposing presentation is that of a fluted column of the same style of architecture. The third is an engraving of a section of the columns mentioned, and indicates why they can not come apart. A beautifully pictured catalogue, issued recently by this firm, is copiously illustrated with half tones, representing columns, caps, and bases of the important classic column types. An exquisite array of caps, brackets, and consoles add to the pictorial value of the publication. The catalogue also gains in charming effects by views of per-



PLAIN COLUMN.



SECTION OF COLUMN.



FLUTED COLUMN.

golas, and in displays of practical construction by well selected specimens of buildings, in which the columns are freely used. The columns, in addition to their supremely correct form and beauty of sculpture imitation, are rated as positively standing the test of

time, as thousands now in exposed or interior use will show. No blocking or inside form is required in any of the shafts, as the stock used is of sufficient thickness and the joint is permanent and secure enough to support the shaft and the superimposed load, furnishing a column as well as a cap and base that is hollow throughout and ready for introduction of either timber or iron column, that may be found necessary to carry any unusual load. The staves, after being thoroughly heated in the steam-box, are rapidly glued with a brush and placed in forms and immediately clamped with specially devised clamps placed on the shaft at intervals of eighteen inches, thereby insuring as perfect a union as hot glue and powerful pressure can secure. The clamping up process is complete before the stock is cold, which is a very important feature. All columns made under Koll patents are made in the Hartmann factories, every shaft being turned in the lathe, thereby securing the proper entasis. All columns and pilasters are fluted by means of a fluting machine of the firm's design. The proper width of fillet between flutes and depth of flute are obtained automatically. All flutes are stopped, by means of an attachment, at low cost; the expense of doing this part by hand accounts for its absence on many columns offered to the trade. For an intimate description of many other important features of construction, the literature issued by this company will be found very practical; for instance, on lock joint columns where they are used for surrounding iron columns or supporting timbers; on wood caps and bases; on centering caps and bases; on dowering for caps; on composition caps; on carved caps; and on material for columns. In reference to hardwoods, columns are furnished built of the various hard or

soft woods for interior or exterior use, the method of construction permitting the use of the more expensive woods. The firm has been compelled to add additional floor space to the extent of 8,000 square feet during the past year, and it is devoting one half of this increased area to the manufacture of "Compo" (Staff) capitals, brackets, moldings, etc. This permits the furnishing of columns and pilasters complete with ornamental capitals, thereby saving all delay in shipment. To our readers interested in sun-dials, circular No. 11 will be found very instructive. This attractive and useful instrument is made in various styles and mounted on handsome pedestals. Without it no country home is now complete. The Western factory is in Chicago, Ill.; Eastern factories, Nos. 428-438 West Lincoln Avenue, Mount Vernon, N. Y., and the New York office, No. 1123 Broadway.

#### FIREPLACES, MANTELS, GRILLES, ETC.

ANY one about to build a home or make improvements in a dwelling will find the fireplaces, mantels, grilles, etc., mentioned and shown in this article worthy of consideration. They are artistic in design, correct in proportions, and are undoubtedly adapted to form a part very contributory to the interior beautification of the modern house. The two mantels and the grille piece are specimens of work direct from the factory, and clearly shown by the engravings.

MAHOGANIZED  
BIRCH MANTEL.

The larger mantel is a golden oak or mahoganyized birch, selected lumber, seven feet high and five feet wide, and fitted with a 36 x 18 inch French bevel mirror. Beautiful columns and capitals add to the structural grace and strength. The smaller mantel is made of solid oak, 78 inches high by 54 or 60 inches wide. It has a 24 x 14 inch mirror. Each mantel is charmingly tiled around the grate. Reception halls, parlors, dining-rooms, living-rooms, and libraries are made more delightful by these handsome mantels. They are made in such a large variety of sizes, fittings, color effects, and styles, that it is almost positive that the piece needed to harmonize with the woodwork and other details of the room in question can be furnished by the maker, William F. Ostendorf, the well known Philadelphia house. If the very finest sort of mantels are required, one will there find a line

SOLID OAK  
MANTEL.

GRILLE.

so handsomely carved and elaborately finished as to be pronounced perfect masterpieces of highly skilled workmanship; and on the other hand, the necessary attention is given the lower grades so as to give the very best value for the prices of the economically inclined. One of the exquisite features of household decoration furnished by this establishment is the beautiful grille work, a specimen of which is inserted herewith in the engraving. Grilles are generally held to possess an unsurpassed quality in the direction of setting off the appearance of doorways, window tops, and arches. Not only are the shapes and patterns attractive and decorative, but they are continually playing a part in response to the many changes of light and shade that go in day and night in a room. It is understood that the manufacturer reports an increasing public taste for articles of this nature, and claims this is a result of their suitability to the fancies and needs of refinement in color forms and utilities that furnish a home. In addition to manufacturing mantels, fireplaces, and grilles, the factory is rushed to turn out tiles for floors and walls of bathrooms, kitchens, vestibules, etc. Its products also are slate laundry tubs, gas grates, fire sets, fenders, marbleized slate wainscoting for vestibules, bathrooms, halls, etc. Division screens and special grilles are made to order. Send to the maker, No. 2417 North Broad Street, Philadelphia, Pa., and a copy of his well illustrated catalogue will be sent free.

#### WOODWORKING MACHINERY.

THE fire which recently damaged one of the Fay erecting shops of the great Fay & Egan Woodworking Machinery plant at Cincinnati, Ohio, will prove to show no detriment nor delay in filling their orders as usual. A large part of the force of men employed in these shops has already resumed work, and the remainder has been transferred to the Egan shops, and the regular work continued as if nothing of the kind had occurred. Provision for just such a possibility had been provided for under the perfect system by which this company is handled.



## VOLUME XXXVIII.—JULY—DECEMBER, 1904.

Articles marked \* are illustrated.

## COVER ILLUSTRATIONS.

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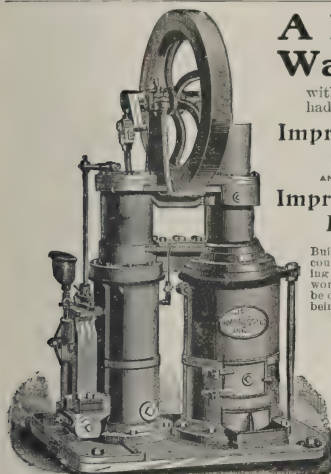


**PEARSON COATED NAILS** have a holding power more than twice as great as any other kind. They resist the weather longer than ordinary wire nails and have other advantageous features. The coated flooring nails—under the trade name of "Leaders"—are a radical departure from the rut, and excel in every detail. They save 30% in labor and are sold at attractive prices.

**J. C. PEARSON CO., BOSTON**

FULLER BLDG.  
NEW YORK

RAILWAY EXCHANGE BLDG.  
CHICAGO



## A Never Failing Water Supply

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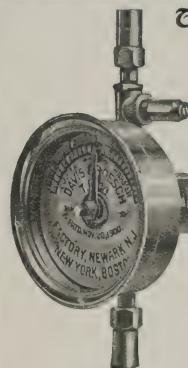
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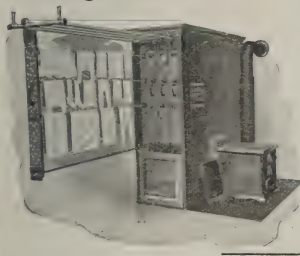
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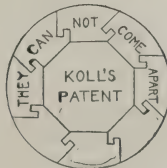
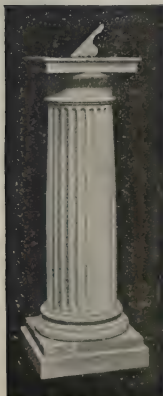
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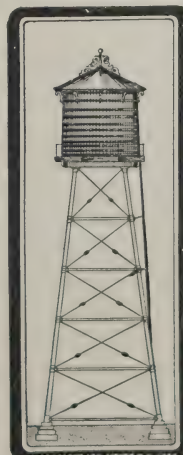
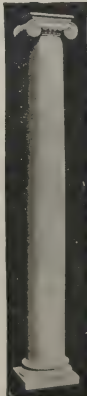
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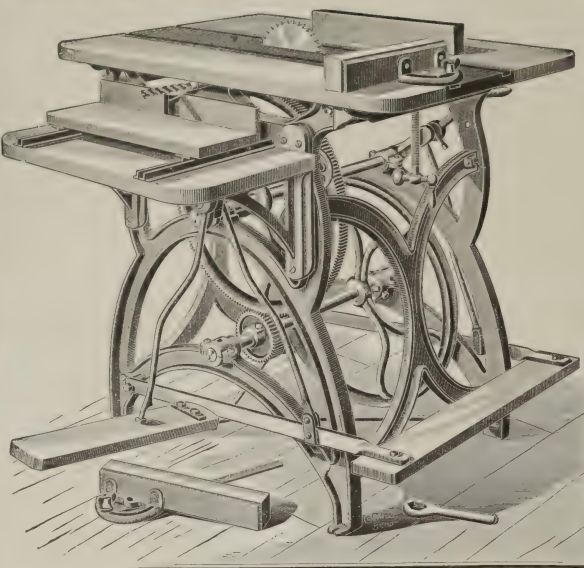
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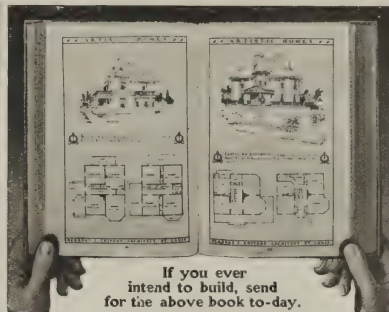
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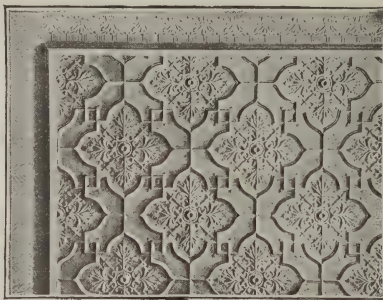
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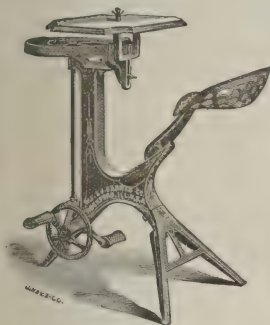
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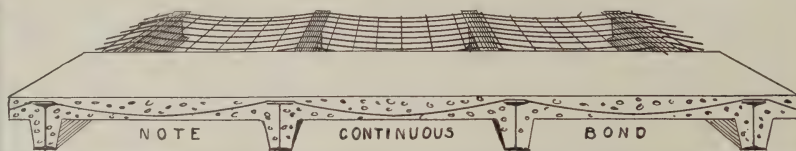


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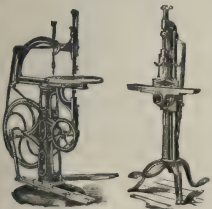
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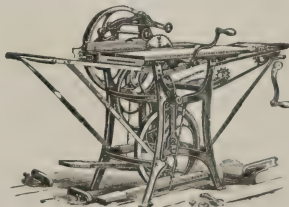


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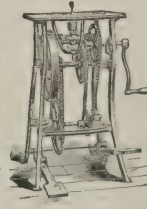
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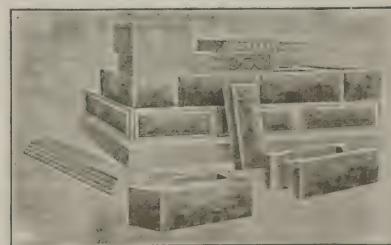
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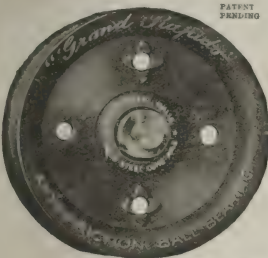
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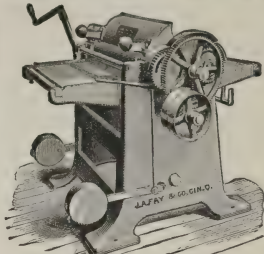
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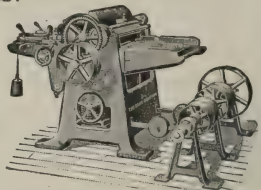
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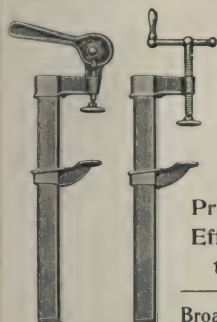
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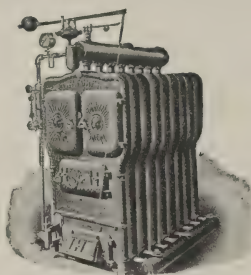
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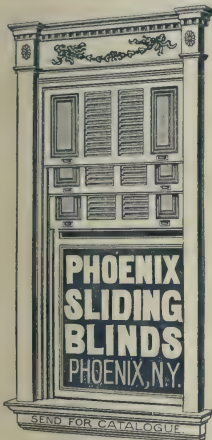
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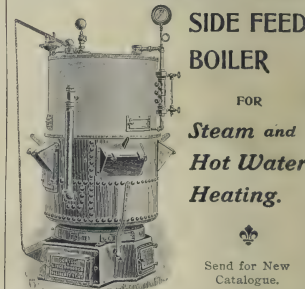
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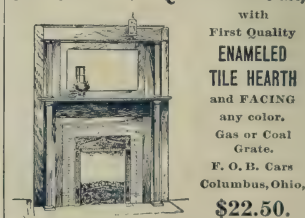
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